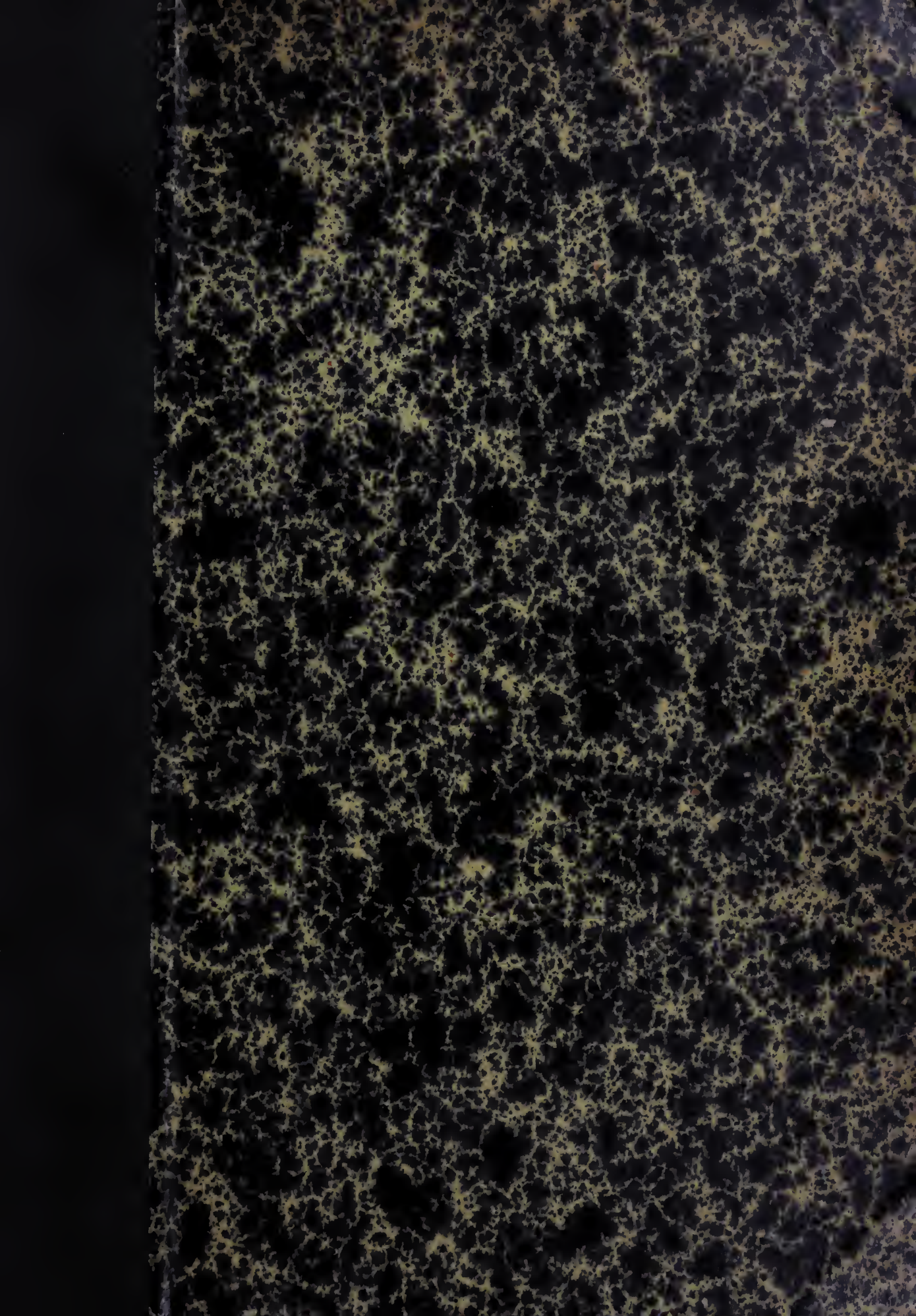
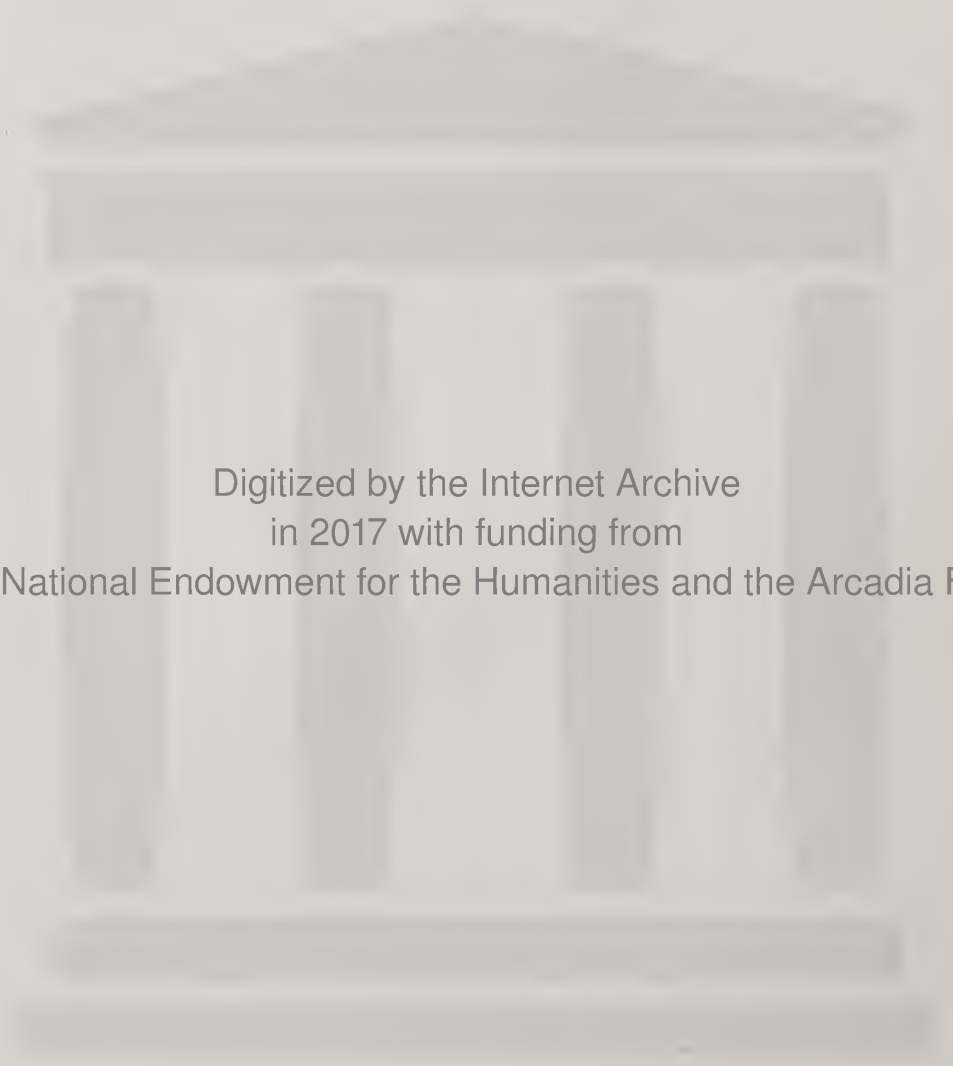


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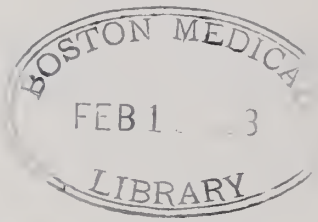
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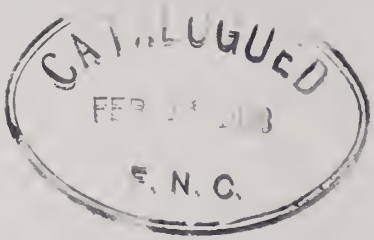
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THE CANNING PROCEDURE

• Some misunderstandings exist as to the mechanics of the commercial canning procedures. Although some such information is available (1) (2), it is not surprising that the facts are not more generally known. The art of canning has been largely developed by, and retained within, the industry.

Of necessity, canning procedures vary with the product packed. However, it is possible to indicate in broad detail the treatment to which foods may be subjected during canning.

Cleansing Operations

Raw materials are given a thorough water cleansing, usually by washing under high pressure sprays.

Preparatory Operations

Following washing, undesirable stock is removed by sorting, trimming, peeling and coring operations, as occasion may demand. With some products these operations are performed mechanically.

Blanching

Certain products are "blanched" or scalded by immersion in hot water. This process serves not only to clean the product further, but also to soften the tissues and expel air therefrom.

Preheating and Filling Operations

Here practice varies with the product. Sometimes the food is precooked and filled into cans; again, it may be filled into cans and hot water or hot salt and/or sugar solutions added; still again, the filled cans are "exhausted" in a steam or hot water box. All these operations, the majority of which are mechanically performed, serve to preheat the product and exclude air from the cans.

Sealing, Processing and Cooling Operations

The filled cans are hermetically sealed on an automatic "closing" machine while the contents are still hot; the sealed cans are then heat processed to destroy spoilage micro-organisms; finally, the cans are cooled in water or air. Cooling contracts the contents and produces a vacuum within the can.

Such are the broad details of the canning procedure. We trust this brief word picture will bring better understanding of the treatments to which canned foods are subjected.

AMERICAN CAN COMPANY

230 Park Avenue, New York City

(1) 1924, Commercial Fruit and Vegetable Products, W. C. Cruess, McGraw-Hill, New York

(2) 1924, A complete Course in Canning, The Canning Trade, Baltimore

This is the eighth in a series of monthly articles, which will summarize, for your convenience, the conclusions about canned foods which authorities in nutritional research have reached. We want to make this series valuable to you, and so we ask your help. Will you tell us on a post card addressed to the American Can Company, New York, N. Y., what phases of canned foods knowledge are of greatest interest to you? Your suggestions will determine the subject matter of future articles.



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"Enlarging of the uterus often causes reflex vomiting. Unless carbohydrate is taken throughout the day to maintain the blood sugar at high levels, Ketosis results. This disturbance aggravates the vomiting, frequently beyond control because of the inability of the damaged liver in pregnancy to resist Ketosis."

—Kugelmass, Clinical Nutrition in Infancy and Childhood (p. 53)

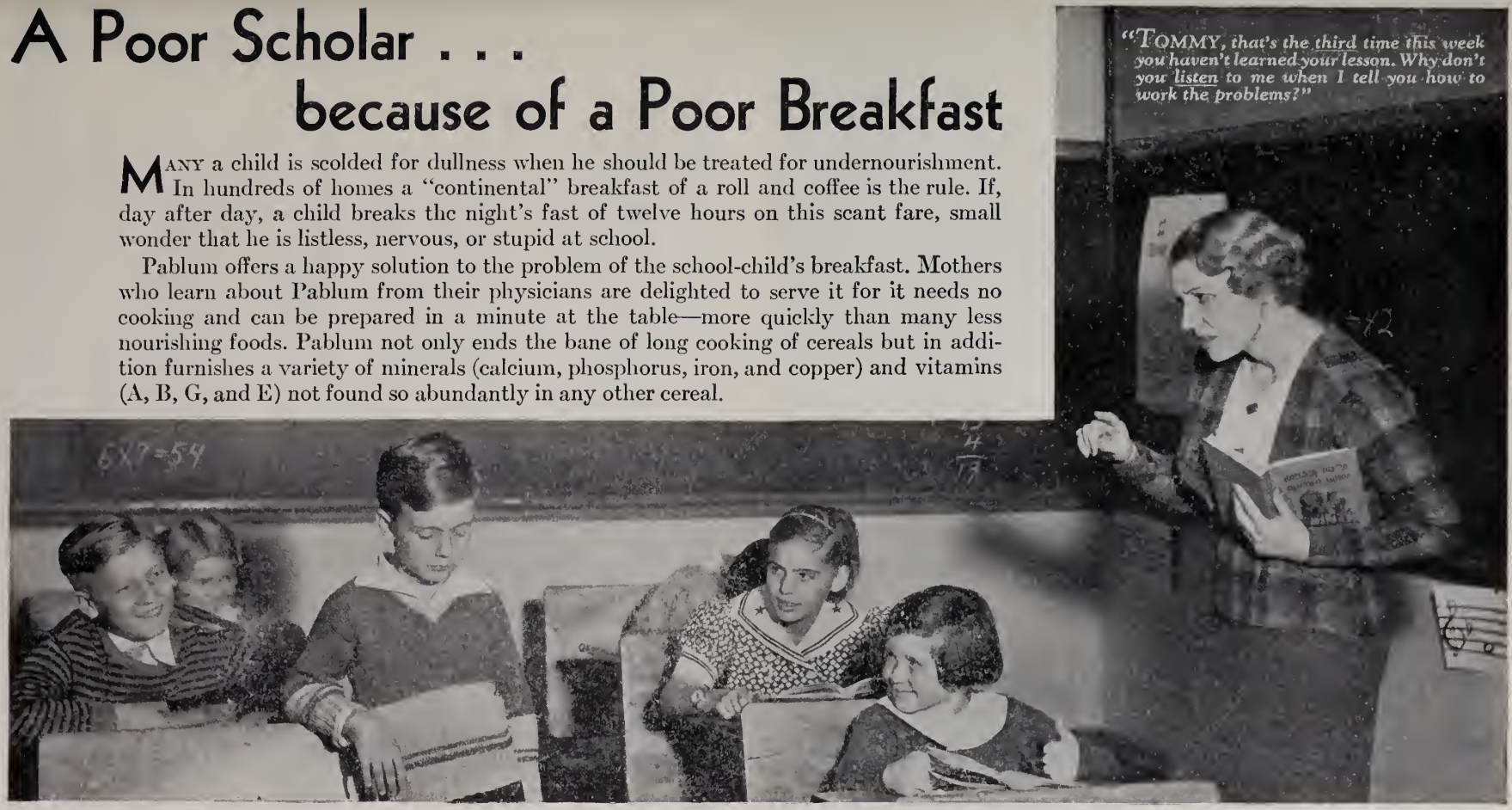
KARO is an ideal carbohydrate to combat Ketosis. Karo consists of palatable maltose and dextrose (with a small percentage of sucrose added for flavor) quickly absorbed and the non-fermentable dextrins that are gradually transformed into simple monosaccharides. Karo can, therefore, be fed in larger amounts than simple sugars without danger of digestive disorders—fermentation, distention, diarrhea...Karo may be added as Syrup or Powder to milk, cereals, gruels, fruits, vegetables, desserts and refreshments. Whatever the prenatal dietary indicated, Karo will furnish the mixed sugars necessary to combat Ketosis. And the earlier in pregnancy the addition is made the less the danger of Ketosis.



A Poor Scholar . . .
because of a Poor Breakfast

MANY a child is scolded for dullness when he should be treated for undernourishment. In hundreds of homes a "continental" breakfast of a roll and coffee is the rule. If, day after day, a child breaks the night's fast of twelve hours on this scant fare, small wonder that he is listless, nervous, or stupid at school.

Pablum offers a happy solution to the problem of the school-child's breakfast. Mothers who learn about Pablum from their physicians are delighted to serve it for it needs no cooking and can be prepared in a minute at the table—more quickly than many less nourishing foods. Pablum not only ends the bane of long cooking of cereals but in addition furnishes a variety of minerals (calcium, phosphorus, iron, and copper) and vitamins (A, B, G, and E) not found so abundantly in any other cereal.



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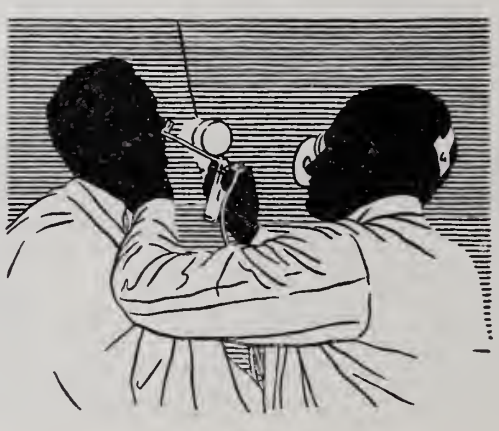
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Colorado Medicine JANUARY 1936

Leonard Freeman

DR. LEONARD FREEMAN died at his residence at 7 a. m. on December 27, following a coronary thrombosis. On Decem- 16, he was seventy-five years old and at 10 a. m. the next day he had the first attack as he was finishing an operation at the Colorado General Hospital. The sudden termination was presumably due to cardiac rupture.

Dr. Freeman was born in Ohio, December 16, 1860, the son of a prominent physician of that State. He took his degree of M.D. at Ohio Medical College in '86—although his class was that of '85—the diploma being held in escrow, as the custom was in those days, until he had finished his interneship. He then studied in Berlin and Vienna for nearly two years. On his return he lectured on pathology in his Alma Mater and served on the staff of his former hospital. Because of the development of pulmonary tuberculosis, he came to Denver in 1895, and, as the then secretary of the State Board of Medical Examiners, I registered his diploma.

He had taught surgery in Denver since his arrival and had been on the surgical staff of practically all of our hospitals. He had long been the unofficial Dean of the surgical profession of Colorado. He was a member of the Western Surgical Association, the American College of Surgeons, the American Surgical Association, and the International Surgical Association. This latter organization is made up of some one hundred and fifty of the greatest surgeons of the world, and Dr. Freeman attended its sessions in many of the Capitals of Europe.

His early pathological studies were of the greatest value to him in his work—perhaps especially in diagnosis. I think most of us regarded him easily as the best speaker of our local profession, as shown in his addresses and discussions.

Dr. Freeman leaves a widow and two sons, Frank, an engineer, and Dr. Leonard Freeman, Jr., one of our young surgeons.

He was perhaps our greatest traveller. With Dr. and Mrs. Freeman, Mrs. Hall and I have traveled some sixty thousand miles. No finer companions ever lived.

Dr. Freeman, in ability and character was, to use a homely phrase, "built of big timbers." With such a framework one could expect distinction in any line that appealed to him.

I have heard it mentioned by patients not yet well acquainted with Dr. Freeman, that they thought his manner at times a little brusque. Thousands of patients, however, all over the West, have looked upon him not only as their surgeon, but as one of their warmest friends.

Those of us who have seen him choke up and cease speaking in making an obituary address, know that he had a great heart.

Our loss is irreparable. J. N. H.



LEONARD FREEMAN
President, 1909-1910, The Colorado State Medical Society

New Year's Resolutions— A Suggestion

DURING the first month of the New Year every physician will receive communications from commercial houses, mortuaries —or what not—stating the hope that he enjoys the complimentary copies of certain abstract journals. And incidentally that the old firm is still in business ready to appreciate any trade that may be blown in its direction!

Not that the medical men are lazy, but there is little doubt that many depend for their mental pabulum upon the reading of summaries and abstracts. There is plenty of stuff to be assimilated, even in the narrowest specialty, but it might be better to bite off less and chew it better. Digressing for a moment, be reminded that practically any organ, appendage, or system of organs in the body is capable of atrophy from disuse. Anatomically, an unused brain appears just the same as the one which did something for its host and his country while it was suspended in spinal fluid. All of which is an index of our dearth of knowledge pertaining to the human mind. Perhaps Nature has been kind in sparing this organ the type of atrophy which other organs undergo. Otherwise it might be difficult to find a brain suitable for research, since those which we procure usually come from paupers and criminals. We must humbly admit that there are plenty of such "normal" brains available for our students; they seldom show any deviation from the gross and microscopic pictures in the texts—and Sherlock and his lens are not called in to find them. A strange thing is the human brain—how well it seems to stand misuse, abuse, and no use at all. It is tempting to wander farther afield, but we planned to discuss a New Year's resolution.

There are few worth while material things in this world that are free. We pay for what we get. It costs money to print and distribute a journal. This one and many others pay their way largely through their advertisements; no profit is anticipated. The sums received from advertisers are in proportion to circulation; of course the quality of the publication is important. A large circulation may be established at once by sending out thousands of free copies, and production expense is often reduced through stealing and abstracting the contents of other publications. As a strictly business venture, this might not seem open to criticism. But the parasitic nature of it makes it despicable. Dr. George E. Lake of Waukegan, Illinois, has recently written upon the subject and expresses this opinion most effectively: "The difficulty and unsoundness arise when a man or group of men, whose primary, if not exclusive, object is pecuniary gain, embarks upon the project of appropriating, in the form of abstracts, the work which has been done by the sincere, earnest, and hardworking editors and publishers of sound and substantial scientific medical journals, rehashing and often denaturing it, and then passing this stuff out free, as a suggested substitute for a more nutritious and stimulating mental menu; and at the same time attempts to undermine the foundations of the livelihood of the very men and organizations that furnish the basic materials for their efforts, by an active and vigorous competition for the advertising contracts upon which they must live."

There is available a very effective means of combating this evil. Uncle Sam is prepared to act in behalf of the legitimate enterprise for a few dollars a month. Copyright protection is available. Why shouldn't we use it? Doctors are said to be poor business men, and many of their publications uphold the tradition. But here and there rays of hope have crept over the horizon. Whether we have actually accomplished a great deal might be debated, but the subject of medical economics has been liberally discussed. A great deal of legislation opposed to our profession and the best interests of the people has been defeated. And a number of leading medical journals are copyrighting their contents. This healthful step is now being taken by Colorado Medicine.

In the meantime, drop a line to the donors of abstract journals. Tell them you appreciate the courtesy, but you have resolved that in the New Year you will choose and

assimilate your medical literature first hand and will not patronize parasites upon the life blood of your professional brethren and upon the official publications of your profession.

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Scientifically Correct Food Canning

Those who have the affairs of the Colorado State Medical Society at heart find happy moments in contemplation of another annual meeting—and in reflection upon those which have passed into history. In behalf of the latter moments, the scientific papers traditionally reproduced in this journal are a substantial help. Very little, however, has been written to refresh our minds of the messages carried by many of the exhibits. We will endeavor to do this from time to time, since that phase of the annual meetings is growing in importance each year.

Among the food exhibits one recalls the demonstration of a few scientific facts which have been applied to the canning industry. It is granted without controversy that the fine arts might be pleased to enfold the neatness and perfection of this enterprise. Consider vegetables, for example. Pass over the selection of seed and the fertilization and cultivation by trained men. Be assured of careful selection and inspection of the products, and note the cleanliness and air conditioned environment of a scientifically regulated factory. In the canning of strained vegetables, it is interesting to compare the technic with that which prevails in the home kitchen. We are familiar with the heat lability of vitamins and the solubility of mineral salts. The consequences of the housewife's frantically boiling kettle and of her pouring the broth down the sink hardly need elucidation. In contrast to this is the modern laboratory atmosphere of a canning plant producing "Council Accepted" products: Moisture content, cooking temperature, and the duration of the cooking period are scientifically regulated with special equipment that makes it possible to control all variable factors. The cooking and straining are performed in an atmosphere of steam. This excludes air and therefore oxygen, thus preventing loss of vitamins through oxidation. The retention of all liquids prevents the loss of the minerals. The filled cans are sealed and then steam cooked for the length of time determined necessary for each product. The cooking takes place when the product is in the sealed can, which is not opened until it is to be consumed. An innovation by one firm is the shaker cooker, which lessens the cooking time by nearly one-half; it assures uniform heating, sterilization without overcooking, and maximum preservation of natural color and flavor.

The above facts constitute healthful knowledge for the physician whose practice entails the optimum selection and preparation of foods—whether it be in pediatrics, "gastronomics," or geriatrics.

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A Common Incompatibility

Pre-medical and medical curricula include various courses in chemistry. They are reviewed again in physiological chemistry and pharmacology. Even so, we forget many of the most obvious incompatibilities in prescription writing and in suggestions commonly made to patients.

How frequently patients are told to take "a little soda with the aspirin." One is alkali and the other an acid. The incompatibility is worse than one of ordinary neutralization, for the acetylsalicylic acid is decomposed by the alkali into acetic and salicylic acids. Against this disadvantage we cannot demonstrate any advantage. The physician's recommendation of the alkali will only tend to confirm many a self-styled diagnosis of "an acid condition" that the patient learned about over the radio. Hence he is very likely to insist upon genuine "Bayoseltza" instead—thereby improving upon the doctor's recommendation and next time consulting the radio first.

❧ ❧ ❧

Chronic arthritis is the greatest single cause of disability in temperate climates, and it produces more pensionable invalidism than any other condition except cardiovascular disease in old age.—Annals of Medicine.

DISEASES AND DYSFUNCTIONS OF THE THYROID GLAND*

EDWIN P. SLOAN, M.D.
BLOOMINGTON, ILLINOIS

You probably wonder why a surgeon should speak on this subject. Before I get through you will see it is of much importance to the obstetrician, to the pediatrician, and to the general practitioner. One reason is because no one else mentions it and, another reason is that most of the information and most of the knowledge that has come in regard to the effect of hypothyroidism upon differential development has come from study of diseases of the thyroid gland.

There is only one type of goiter that is associated with hypothyroidism, especially the kind that affects differential development. The point that I wish to bring to your attention is that the differential development of the human being is dependent upon thyroid function; without thyroid function there would be no differential development. With a normal differential development, the greatest miracle that any of us can conceive of comes about—that is the development of the human being from a little bit of protoplasm, until at birth there is a well-developed human being with all the intricate organs and functions of the body.

The differential development continues on through childhood. The boy develops a coarse voice and a beard, and the evidence of maturity comes to the girl. They think and they love, they are affectionate and they laugh. All that is part of differential development. When the boy or girl is fifteen or sixteen, differential development is not yet complete. It is not complete until real maturity, which in the boy is about twenty-eight. You do not trust a boy of sixteen or eighteen to run a bank and use good judgment. He is not settled; he is not mature. And you do not expect much of a girl because her qualities of character have not developed. The girl develops into maturity at about twenty-four.

If there is a retardation or interference with the differential development, the boy at twenty-eight may have the mind and attitude and the character of a boy of sixteen, and he may never become more mature. And when the girl is twenty-five she may have the mentality and personality and lack of dependability that goes with a fifteen-year-old girl. These are the tragedies we meet in the more extreme cases. It used to be thought that five generations of simple colloid goiter or adenomatous goiter meant more than 50 per cent incidence of cretinism, and the goiter was blamed for it. We know now that both conditions are due to the hypothyroidism. This development of the simple colloid goiter is due to the same condition that brings about the extreme degrees of lack of development. For that reason I present pictures to show the different types of goiter and bring to your attention the grouping that we use.

The diffuse non-toxic goiter is nearly always due to lack of halogen in the nutritional supply. Then, later on, the same condition becomes adenomatous. They are not true adenomas. There are other true adenomas—adenomas that have no relation to the subject under discussion. We have toxic adenoma that has the same type of toxemia we find in exophthalmic goiter. It has no relation to this subject so far as the toxemia is concerned; neither has Graves' disease nor Riedel's disease.

We do not believe typical exophthalmic goiter has any relationship to the simple colloid goiter. The simple colloid goiter is due to the over-stimulation of the gland without enough iodine to form normal thyroxin and thus correct the hypothyroidism that makes a deficiency stimulus. We see no cases of exophthalmic goiter that do not follow infection. We think they are due to the infection destroying the power of the thyroid to secrete the colloid—just opposite

*Dr. Sloan spoke ex tempore; the address was illustrated by some twenty-five lantern slides. He had no manuscript, and this article is edited from the stenographic notes. The address was given at noon on the fifth of September; he remained at Estes Park till the morning of the sixth when he had to leave on account of his illness. He reached home the night of the seventh and died in Bloomington on the thirteenth of September. He was greatly beloved by a host of friends in and out of the profession.

to simple colloid goiter. Toxic adenoma is the result of a simple colloid goiter in early life. This comes within the subject of this paper. Riedel's disease is a woody thyroiditis or iron-hard strumitis. These cases become finally complete hypothyroids.

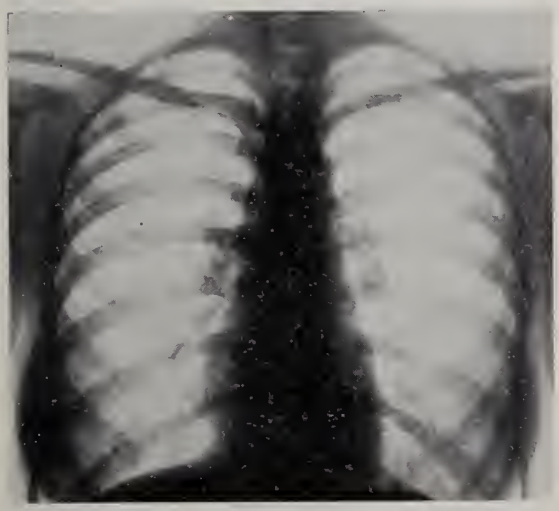


Fig. 1. Heart shadow in case of simple colloid goiter.

Note the heart shadow in a case of simple colloid goiter. Such a case might be called congenital—having been present from birth. When there is a simple colloid goiter you can almost tell whether it came on during pregnancy, or was present at birth, by the shape of the heart shadow. It is an interesting thing that nearly all these cases, in which the simple colloid goiter dates back to birth, are enteroptotics.

Simple colloid goiter, such as you see in this family, is transmitted to the children.



Fig. 2. Simple colloid goiter—a remarkable demonstration of its familial character.

There are thirteen children and every one had simple colloid goiter. There was iodine deficiency; they were all cured when this was met by giving iodine and calcium in the food. This is the type that makes for subnormalcy. If you note the expression on the faces of these children you will see every one of them is underdeveloped. They are not bright.



Fig. 3. More members of the same family.

Another case of colloid goiter was interesting because it came on after the man began heavy work. Another interesting fact is that simple colloid goiters frequently become adenomatous and cystic. A woman who had simple colloid goiter in early life showed adenomatous development and finally became myxedematous. Then she had an operation—after that becoming toxic and had the same type of hyperplasia and became exophthalmic. After another operation this was followed by new growth and she had a malignant gland. Simple colloid goiter is an evidence of hypothyroidism, as is cretinism. Another case had simple colloid goiter, then adenoma, then myxedema, then the type of toxemia we get in Graves' disease, and finally developed a carcinoma in the scar.

We now arrive at the point I have been trying to make, the effect of hypothyroidism on differential growth. Here is a girl from one of the institutions in Illinois; she was twenty-eight years old, with a mentality of a child about four months old. She has to be taken care of as an infant. She had to



Fig. 4. A cretin, aged twenty-eight. Mental age, four months.

be propped up against the bush there to get her picture. She is a true cretin.



Fig. 5. Another cretin, aged thirty-two, standing beside a normal man.

The mother of the cretin shown in Fig. 5 has had two normal children since she, being herself a cretin, was placed in the institution. When she became pregnant she was given thyroid extract. Previously she had had five abnormal children. That is evidence that the lack of thyroid function was the cause of the cretinism.

Every one of the girls shown in Fig. 6 has brothers and sisters, wherein the mother during pregnancy received thyroid and iodine and normal children have resulted. These are institutional cases because the mothers did not get about three dollars' worth of iodine and thyroid. It would have taken this amount to have made these girls useful members of the community. These may not be the greatest tragedies. The great tragedy is seen in the child who, instead of developing into a mature, stable personality and reaching success, falls by the wayside. At the Home for delinquent girls at Geneva, Illinois, 944 were admitted and only four had completed a course, eighth grade or high school. All the others had dropped out on account of inefficiency. From these come delinquents and many criminals. They have been retarded because of the lack of thyroid function. These retarded children, those that are almost normal, whose gross development is normal, are a most lovable sort, whether four, ten, or forty years of age. Yet they are always a disappointment. We naturally expect more than they can deliver. That is the great tragedy, especially when we realize that recognition of the fact that the mother was a hypothyroid and that treatment of her would have made the child a useful, dependable, stable member of society. Many of these children are very bright in some certain line. When a child is small, before he is a year and a half old, he develops the sense of rhythm and all the musical capacity he ever will have. If it is not developed then, it never will be. Mimicry is developed by the time he is five. No



Fig. 6. Institutional cases of cretinism, all of whom have normal brothers and sisters.

child after five can develop the faculty of mimicry. As he gets a little older, imitative faculties develop, and finally he begins to reason from abstract things. First he has memory of things seen and felt and of things read or heard; finally he can reason from abstract things and is in position to get an education. After he becomes sixteen or seventeen years of age, the character qualities develop.

So many of our criminals have only reached the age of fifteen to eighteen and are not stable. They can never meet the great stress and trying situations of this age. These that fall by the wayside are the sad examples of the inefficiency of our present day civilization. In the old days when life was simpler, when the intellectual faculties were not needed to make a living, we got along pretty well.

We have left these cases to the welfare workers and teachers long enough. It is time the profession must realize that we cannot make something out of these children that they are not, that a fifteen year old mentality in a thirty-year-old man will not succeed. He cannot do it, although he may try harder than anybody else. These partial morons, those with twelve or fourteen-year mentalities in adult life are the ones who show genuine effort. The teacher ridicules them, the parents jump all over them, the truant officer catches them, and everybody is after them. With a twelve year mentality, a good deal of education is possible. Yet they are expected to show a nineteen year old mentality, just because they are grossly developed and good looking. Their friends and relatives cannot see why they should not succeed as other children.

A woman was brought to us with goiter; she had a subnormal child, a cretin. The mother was pregnant. She was given thyroid and iodine and went through a normal pregnancy; the child was perfectly normal, fully developed and bright. Her goiter was removed and she thought she was all right. She was not seen by any physician until her next baby was born. She had reverted to the extreme degree of hypothyroidism during her pregnancy. There was not enough thyroid to bring about the normal development of the pituitary in the third child, and also the mastoid cells were not developed. That third child was a deaf mute and had hypopituitarism. She was then cared for and since has given birth to three normal healthy children. The first and third children are enteroptotics; the others have almost transverse stomachs. This shows what can be done in these cases. It brings out the fact that we should watch every expectant mother, and every child should be watched during the period of differential development for thyroid deficiency.

A Doctor's Trouble

"My dear fellow," said my doctor to me, "you have no idea what we have to put up with. If I call to see a patient frequently, I am 'trying to run up a bill;' if I don't 'it is shameful neglect.' If I manage to get to church, and am called out, I hear afterward, 'Working the Bob Sawyer dodge on Sundays, eh, Doctor?' If I am so busy that I cannot go, I am sure to be asked, 'How is it that you doctors are all athiests?' If my wife calls on people, it is 'because she is trying to get patients for me,' but if she doesn't, it is because she is 'too stuck up.' If I cure a patient quickly—get credit, you say? Oh, dear no!—the patient 'wasn't half as bad as the doctor tried to make out;' but, on the other hand, should the case develop serious complications, 'Ah! the doctor never understood the malady; in fact, he was worse when he had been taking the medicine a week than when we called him in.' I am expected to cast a horoscope on a baby's life, and tell what its aliments will be. If I can't do that, I 'can not possibly know very much.' I am expected to foresee all the 'ills that flesh is heir to,' six months before they come. I once lost a patient whom I had treated for influenza because I did not foretell an attack of rheumatism which came on three months later. In all cases, if they get worse, the fault lies in the medicine. If I send in my bill, they say, 'He is in a terrible hurry for his money;' if I don't, it is 'so unbusinesslike.' 'But we get well paid?' do you say. My dear sir, if I received payment for one-half I do, I should die from shock."—Medical Record.

THE ELLIOTT TREATMENT IN PELVIC INFLAMMATION AND DYSMENORRHEA*

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The Elliott Treatment consists of the application of heat in the vagina at a controlled temperature and pressure, by a machine which circulates hot water through a distensable rubber applicator. The average treatment starts at 115 degrees Fahrenheit, is increased approximately three-fourths of a degree per minute to 130 degrees, where it is maintained for the remainder of an hour, with the pressure at the highest level consistent with the patient's comfort. The first two or three treatments are thirty to forty minutes in duration with a maximum temperature of 125 degrees to accustom the patient gradually to the treatments.

The history of the method is best recorded in an article by Paul DeKruif entitled, "The Microbe Burner," which appeared in the Country Gentleman, November, 1933. In this and similar articles DeKruif in his fascinating style brought home to many sufferers of pelvic disease a renewed hope of relief and they in turn demanded of the medical profession a consideration of this method of treatment.

In 1909, in Seattle, Dr. Charles Robert Elliott conceived the idea of an internal hot-water bottle, for use in the treatment of pelvic inflammatory disease. In 1920 in San Francisco he first tried his internal hot-water bottle, gradually increasing the temperature from 110 to 145 degrees Fahrenheit, and obtained gratifying results. From 1920 to 1929 Dr. Elliott continued in the practice and development of his idea, and in the latter year presented his idea to Dr. Frederick C. Holden of New York.

The method being developed was only a new way of using "man's most ancient remedy." Heat in pelvic disease was used by Hippocrates in the form of hot douches and has continued to be used in one form or another up to the present time, only the method of application has changed.

In November of 1929 Dr. Holden began the use of the Elliott Treatment in Bellvue Hospital. In July, 1931, Drs. Holden and Gurnee published the results of their work since 1929, in a paper entitled, "The Elliott Treatment; A New Method of Applying Vaginal Heat."

In 1931 the bulletin of the St. Louis Medcal Society contained a report of three months' experience with the Elliott Treatment, in a discussion of which Dr. George Gellhorn made the following statement:

"Those gentlemen who . . . perform numerous operations for pelvic inflammations are out of luck, because this machine will help cure a large number of cases of pelvic inflammation, painlessly, without mutilation, without danger, in a short time . . . . without going through the mental agony preceding any operation, without any protracted convalescence, or the aftermath that will follow so many cases that have been operated on for inflammatory conditions."

These two articles form the first literature concerning the Elliott Treatment. To date I have been able to find a total of twenty-four references to the Elliott Treatment in the literature. I have compiled a bibliography of these articles. In reviewing this literature we find that the greatest amount of information has come from the work of Holden at the Bellvue Hospital and Counseller at the Mayo Clinic.

The physiological effects of heat applied locally are becoming better understood in these days when fever therapy in its many forms is receiving so much consideration. Heat applied locally acts chiefly through changes in the vascular system producing vasodilation, increased rate of surface circulation, volume flow of blood, thermal conduction, lymph formation, oxygen tension of the blood, and phagocytosis.

Heat as applied to the pelvic region by the Elliott Method gives rise to an average increase of 17 per cent in the leucocyte count in 87 per cent of the series of cases

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studied by Holden and Gurnee, the production of a profuse discharge from the cervix and vagina which subsides after the first few treatments, a local elevation of temperature in the vagina, uterus, rectum, bladder and peritoneal cavity of from 5 to 7 degrees Fahrenheit and a reduction in the red blood cell sedimentation rate.

Let us consider for a minute the effect that these changes have or may have upon infection. The processes of immunity are activated as indicated by the leucocytosis; the increased oxygen tension of the blood undoubtedly has a detrimental effect upon anaerobic organisms; the risk of bacteremia is probably increased due to the vasodilation at the site of infection; the rate of bacterial growth is effected variably depending upon the organism concerned; the high local temperature produced is probably lethal to such organisms as the gonococcus; in the case of the destruction of bacteria at the site of inflammation we would have to consider the possibilities of the effects of a vaccine produced in vivo; and lastly we should consider the possibility of changes in the infective organism by microbic dissociation. Heat under experimental conditions is one of the most important factors concerned in the production of microbic dissociations. Hadley has pointed out that virulent organisms which are resistant to phagocytosis may be dissociated into a nonvirulent form which is susceptible to phagocytosis.

The patient with pelvic inflammation who is subjected to treatment with heat by this method is surprisingly relieved of her pain, chronic fatigue, and exhaustion. Upon examination we find marked resorption of exudates, diminished tenderness on bimanual examination, definite destruction of bacteria and marked increased activity of the cervical glands, which at first pour out large quantities of secretion. It has been pointed out by Counseller that improvement continues after treatments are discontinued. I find this continued improvement confirmed by the gradual and continual return to normal of the sedimentation rate.

In my early experience with the method I was much concerned by the burns I found upon speculum examination but of which the patient made no complaint. In correspondence with Dr. Elliott I was informed that the burns were not significant and that they would heal satisfactorily by continuing daily treatment at a lower maximum temperature. This prevents the folds of the vagina from healing together. These burns are usually due to incomplete distension of the applicator.

I retain two distinct impressions, from my medical student days, which emphasized the importance of the conservative treatment of pelvic inflammation. First, the emphatic denunciations of Dr. Aldred Scott Warthin of the wholesale removal of tubes and ovaries as unjustifiable on the basis of the pathology represented in the never ending line of these specimens that found their way under his microscope. Second, the repeated blood counts and temperature observations following pelvic examinations which Dr. Ruben Peterson required us to do in order to determine whether a given case of pelvic inflammation was ready for operation, impressed upon our minds the importance of withholding surgery in the face of active infection.

Conservative treatment aims to conserve tissue and tissue function rather than its complete removal. It has been pointed out by Randall and Counseller that the primary factors in conservative treatment are time, heat and rest, and to these Holden adds bowel hygiene. In the present discussion we are concerned only with the important factor heat, because there has been developed in the Elliott Treatment, in my opinion, the most efficient method of applying heat in these conditions. The efficiency of this new method is based upon the fact pointed out by Gellhorn in 1924, that the vaginal mucosa was less sensitive to heat than was the vulva and perineum. This same fact of the lesser sensativity of the vagina to heat was observed by Elliott in his first experiments with his internal hot-water bottle idea in 1920.

It was pointed out by Holden that under the former conservative regime patients with pelvic inflammatory disease were usually discharged symptom and temperature free, but not organism or pathology free. By the use of the Elliott Treatment we are now

able more often to discharge our patient's organism and pathology free.

During the past two years I have used the Elliott Treatment in twenty cases arising in the course of a general practice. These include the following types of cases: acute salpingitis, acute peritonitis of pelvic origin, chronic salpingitis, leukorrhea, cervicitis, gonorrhea, puerperal infection, post abortal infection and dysmenorrhea.

Rather than detailed case reports I will point out the outstanding results of this treatment in my series of cases. My first experience with this treatment was in a case of chronic salpingitis with the symptoms of low abdominal pain, back ache, chronic exhaustion and dysmenorrhea of longer standing. After two treatments this patient's pain and chronic exhaustion had practically disappeared and after seven treatments the patient was discharged free from all the symptoms she had presented herself with, including the dysmenorrhea. During this course of treatment all tenderness and induration disappeared.

One case of puerperal septicemia, with a large pelvic abcess and severe pain, was completely relieved of pain after the first treatment. One case presented all the signs and symptoms of an acute generalized peritonitis which later proved to be gonococcal in nature. This case responded marvelously to the Elliott Treatment, the temperature becoming normal on the fifth day and remaining so, and after eleven treatments no more gonococci were found on smears. One case of subacute salpingitis presented a large pelvic mass which it was thought would require surgery but which upon treatment completely absorbed. Leukorrhea was a major complaint in fourteen cases treated. In five cases the results were excellent, in eight satisfactory, and in one unsatisfactory. Five of these cases also had cervical cauterization. One was the above mentioned failure. In the course of treating two cases of chronic salpingitis a long standing dysmenorrhea was relieved. This incidental relief of dysmenorrhea in these two cases led me to treat three cases of dysmenorrhea without associated pelvic inflammatory disease as indicated by history, examination and sedimentation tests, and in two of these cases excellent results were obtained with failure in the third, thus making a total of five cases of dysmenorrhea, four of which were relieved.

Another case presented the chief complaints of chronic exhaustion, leukorrhea, left lower abdominal pain and monthly cramps. The menstrual cramps were severe, lasting three days and had been present since the onset of the menses at age fourteen. The other complaints dated from miscarriage in 1932. In January, 1934, the patient was operated on for an acute pelvic inflammatory condition and the tubes removed. The convalesence was stormy. Eight months later the patient consulted me, stating that since her operation she had continued to have all of the symptoms she had before operation except that the degree of left lower abdominal pain was less. She also stated that the vaginal discharge was decidedly worse. After a course of fourteen Elliott Treatments the patient stated she felt the best she had in several years. She no longer felt exhausted, the lower abdominal pain was gone as well as her leukorrhea and dysmenorrhea. A series of five sedimentation tests revealed a gradual return to normal limits which paralleled the clinical improvement. This case illustrates the advantage of conservative treatment over surgical, in as much as surgery was tried and failed, the patient being later cured by conservative treatment.

It has been pointed out that the red blood cell sedimentation rate is a more accurate index of the course of pelvic inflammatory disease than either the leucocyte count or the temperature curve. Therefore as a control in this series I have used the sedimentation test as a guide to therapy, using the method of Wintrobe. I have found that all cases of pelvic inflammatory disease which showed a satisfactory clinical improvement, also showed a reduction of the sedimentation rate to within normal limits. In the cases of dysmenorrhea without abnormal sedimentation rates to start with no change was apparent. These tests have been of value since they confirm the clinical estimation of the progress of the case. Dr. B. F. Boland cites

his experiences with sedimentation tests used in connection with the Elliott Treatment at the Boston City Hospital, "More value was placed in the sedimentation time than the white count for, when the sedimentation time remained stationary, it was a fairly good indication that the case would not respond to treatment by this method. In those in which the sedimentation time dropped and the white count became elevated, results were obtained."

Conclusions

1. The Elliott Treatment is an efficient method of applying heat to the pelvic organs.

2. The physiology of heat applied locally remains a fertile field for research, especially as it relates to microbic dissociation.

3. Conservative treatment of pelvic inflammations is made more effective, reducing the necessity of surgery.

4. Dysmenorrhea is often relieved by this treatment.

5. Sedimentation tests are an accurate guide to therapy.

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ABSTRACT OF DISCUSSION

T. A. Stoddard, M.D. (Pueblo): This is a subject of vast importance to almost every practitioner of medicine. Gonorrhea in the female can be cured absolutely in from ten to fifteen days with this method. Since 1903 I have used practically this same method. I didn't use the water as hot as the Elliott method advises because I was a little afraid to do so. I used it as high as 115° and observed no burns, but apparently cured gonorrhea every time.

Edward Jackson, M.D. (Denver): Perhaps, at this relatively early stage of our acquaintance with the Elliott treatment, a little testimony coming from a disance will be of value. Over forty years ago I found the most effective means of checking hemorrhage in the orbit, and leaving the tissues in the best condition for healing, was by use of very hot water after the enucleation of an eye.

The technic was simply to take a large mass of cotton dipped into water, boiling when it was brought to me, and letting the water run right into the orbit. The bleeding was checked within a minute, or within much less than a minute, and, although at times drops of water going on the lids would produce blisters, I never saw any bad effect on the conjunctival surface or upon the raw surface within the orbit.

This may be of value in removing the fear of the Elliott treatment—of the temperature used. Certainly the local effect of heat is to be looked at now as a most promising new therapeutic resource.

We have not yet mastered, and we don't know very much about, diathermy. But in certain directions, it promises a great future for conservative therapeutics.

O. E. Benell, M.D. (Greeley): My reason for speaking is to voice a plea for the conservative

treatment of pelvic pathology. I disagree with one or two members in the statement that gonorrhea in women can be cured in fifteen days. It seems to me that whoever is treating pelvic pathology or gonorrhea in women, must exert the utmost patience in this type of disease.

The Elliott treatment is merely another means of producing heat in the pelvic tissues. There are other means, if the Elliott treatment is not available, for producing heat in the pelvic tissues, and it seems to me that long continued conservative treatment in these conditions is the thing of choice.

I have reason to know that many times, or at least some times, after having opened the abdomen and seen the type of pathology which is there at the time of operation, one is often struck by the fact that a little bit more conservatism and a little bit more patience with that type of case would not have made it necessary to operate and remove the tubes—which certainly is a very mutilating type of operation to a woman.

Gonorrhea can be cured in a woman, but it takes infinite patience, and I want to voice a plea again for conservatism in treatment of this type of disease—and conservatism means plenty of heat and plenty of patience.

E. R. Mugrage, M.D. (Denver): Dr. Dickey has brought in a laboratory procedure—the sedimentation rate. I do not believe that the sedimentation rate is used as much as it should be by general practitioners. Dr. Dickey brought out the point that the sedimentation rate is used considerably in gynecological conditions. Its usefulness is not limited to this field.

The principal factor of this sedimentation rate increase is not known. There are several theories too theoretical to go into, but we do find that whenever we have an infectious focus, if this focus is of magnitude to alter the blood forming organs in one way or another, we will find the red cells settling out more rapidly than normally.

There are several factors which we must consider. Consequently any one doing this test must determine first the normal limits for the technic which he uses. So often we have men asking us how we carry out this test. We inform them, but we always tell them that they have to develop their own technic, because the personal equation comes in so manifestly.

I disagree in one respect with Dr. Dickey about the sedimentation rate. I feel that a study of the blood film—that is, the percentage and particularly the character of the different types of white cells found in the blood smear—will be even more important than the sedimentation rate.

I agree with him as to the value of the white count.

Dr. Dickey (Closing): There is only one thing that I wish to add that was not included in my paper. That is the relation of this type of treatment to surgery. I think the Mayo Clinic has probably used this treatment in connection with surgery more than any other clinic and on my visit there a year ago, talking with Dr. Counseller, he made a statement which to me seemed significant. He said that in cases of pelvic inflammation which have been operated on, three weeks following the operation (which has been followed from the third or fifth day with Elliott treatment) at the time he discharges his patient, the pelvic organs are in a condition which formerly it took six months to secure.

THE CAUSES OF DEATH IN SURGICAL COLLAPSE OF THE LUNGS

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The complications arising in surgical collapse of the lungs frequently assume serious and fatal proportions and merit profound consideration, especially for preventive purposes. It is obvious that the causes of death may be numerous and even though minor, apparently inconsequential causes should not be neglected, the major causes deserve first consideration here.

Relative to the inhibition of respirations, Carlson has proved there is an increase in amplitude of thoracic excursions following upper and lower abdominal operations, the amplitude being most marked in upper and less in lower laparotomies. At the same time, there is a cessation of abdominal excursion on the first postoperative day; very slight, if any, on the second and even the third day. It has also been proved by Mason and Bogan, Muller, Overholt and Pendergrass, also Allen, that following laparotomy, especially of the upper abdomen, there are frequently both elevations of the diaphragm and limitation of diaphragmatic excursions. These are influential factors, along with bronchial secretions, in the causation of postoperative atelectasis and pneumonia following general abdominal surgery.

If we now consider respirations in thoracic surgery, we find there is only a slight reduction in thoracic excursions following phrenico-exairesis, and no conclusions could be drawn by Carlson as to the thoracic excursions following chest operations. However, in both of these there is an increase in amplitude of abdominal breathing. With or without an already paralyzed diaphragm, followed by thoracoplasties, we have an increase of abdominal excursions holding the diaphragm in an elevated position, with no increase, but rather a slight reduction in thoracic excursions giving us a

mechanism favoring bronchial stasis in the presence of bronchial secretions and material from tuberculous cavities. These latter along with bronchial stasis are the prime etiological factors causing occlusion of the bronchioli and bronchi giving rise to postoperative atelectasis, broncho-pneumonia and lobar pneumonia.

Legendre and Bailly, in 1844, noticed a frequent coincidence of atelectasis and bronchitis in children. Gairdner, in 1851, spoke of the mucus plug acting as a mechanical ball-valve bronchial obstruction. Virchow first called attention to the necessity of the pulmonary circulation for absorbing alveolar air after complete bronchial obstruction. Jacobeaus and Westermark, also Wilson, have reported the occurrence of atelectasis in typical bronchial obstruction after hemorrhage in pulmonary tuberculosis. When bronchial obstruction is complete and the pulmonary circulation normal, atelectasis occurs; without these two factors atelectasis cannot occur. There are many contributing factors in atelectasis, such as absence of cough, splinting of the chest, edema of the bronchial mucosa and viscid sputum; but there is only one mechanism of its production—bronchial obstruction.

Muller, Overholt, and Pendergrass, in a paper on postoperative pulmonary hypoventilation reported a high position of the diaphragm. The decrease of the bronchial air currents, in their opinion, is conducive to stagnation of bronchial secretions and consequently bronchial obstruction. William Pasteur, in 1890, had noticed a frequent occurrence of atelectasis (massive collapse) of the lung in diphtheria, which he thought could bring about the airless state of the lung. However, in these cases the high diaphragm was the result, not the cause, of the condition.

The bacteriologic contents of the secretions that gain entrance to the bronchi during thoracoplasties are important factors. The part played by the common "cold" in preparing the "soil" for the growth of pneumococci has been demonstrated. Thus the importance of a preoperative "cold" or acute bronchitis as factors conducive to postoperative atelectasis, postoperative pneumonia, or lobar pneumonia, are now well known. Pneumococci are invariably found in secretions of the upper respiratory tract of patients with colds or acute bronchitis.

Coryllos has cultured the bronchial exudates obtained by aspiration before, during, and after thoracoplasties and found pneumococci, Group IV, positive in 40 per cent. They were also found in small numberrs in 32 per cent of sputa and in 64 per cent of exudates sucked from the throat and pharynx at the end of the operations. This organism is associated with the production of an exudate viscid enough to cause obstruction of a lobar bronchus. The more virulent the pneumococci, the more viscid the exudate the greater the percentage of postoperative atelectasis, pneumonia, and lobar pneumonia. Coryllos and Birnbaum, with their experimental work on dogs, using pneumococci of low, moderate, and high virulence from broth culture and human sputum obtained from lobar pneumonia patients sprayed the culture media into the bronchi or placed a concentrated portion on a balloon which was placed into the bronchus and acted as a complete mechanical obstruction in the bronchus. Atelectasis was always produced and was accompanied by bronchitis, pneumonitis, or lobar pneumonia, according to the virulence of the organism.

With the pneumococci already harbored in the secretions of the upper respiratory tract and gaining entrance to the bronchi and bronchioli during the operation, together with postoperative pain, splinting of the chest, morphinization, inhibition of the cough reflexes and with the patient lying on the operated side, hypo-ventilation and a favorable condition for bronchial obstruction are imminent. This is soon followed by an inevitable out-pouring of serum, fibrin and leucocytes into the bronchioles and alveoli below the obstruction. The picture of a postoperative pneumonia is then completed.

The Pathologic Physiology of Respiratory and Circulatory Complications Following Operations

In surgical collapse, we are concerned with what constitutes what is often spoken of

as "cardiac inefficiency." Eighty-three per cent of the deaths, according to Strockling, and almost all of them according to Hedblom and Sauerbruch, are due to pulmonary and cardiac complications. Shock, so-called "heart failure" and aspiration or tuberculous pneumonia are the principal causes of early death. This is the group that we are most concerned with and at the present time the work done by Coryllos and Birnbaum throws an entirely different aspect upon deaths due to so-called "heart failure" or lack of "cardiac reserve," except in specific cases of cardiac decompensation with dilatation. The above authors speak of these deaths as due to anoxemia and acapnia or oxygen and carbon-dioxide want. The causes of death due to shock, so-called "heart failure" and aspiration or tuberculous pneumonia are pathologic and physiologic conditions producing what we have termed "heart failure;" but this is not "heart failure" as we think of it in a pathological sense.

Studies in body chemistry, when correlated with the physiological changes that take place in complications causing death in surgical collapse, reveal some of the fundamental reasons for these deaths. The two most noteworthy changes are to be found in the blood gas content, and should be sought in either oxygen content, or the carbon-dioxide content of the blood; all the other gases assume a minor role. According to Henderson and Haggard, shock is due to oxygen and carbon-dioxide deficiency. The anoxemia is produced by insufficient pulmonary ventilation, whatever might be its cause, which brings about rapid shallow breathing —the result of which is the washing out of the lungs the extremely diffusible carbon dioxide. Thus, decrease of the partial tension of carbon dioxide in the blood will cause increased oxygen deficiency in the tissues, which is called the "Bohr effect." Haldane, Meakins and Davis have shown that acute anoxemia with acapnia may pass unrecognized by the physician and patient, because of the lack of subjective symptoms, and death can occur without a struggle.

Excessive elimination of carbon dioxide produces a marked degree of relaxation of skeletal muscles and the vascular musculature. Due to this, the diaphragm rises and moves very little, if any, during respiration. The respiratory muscles lose their tonus so that the thorax is in a position of deep expiration. The results are decrease of vital capacity, deficiency in pulmonary ventilation, and drop in blood pressure. The loss of general muscular tone further favors inadequate pulmonary ventilation, bronchial stasis, and bronchial obstruction by decreasing the expulsive efficiency of the cough. The unareated parts of the lungs are thus increased. With the additional collapse of the lung from the operation, the alveolar capacity is further reduced and prevents adequate oxygenation of the blood. This brings on a rapid shallow breathing, further washing out the carbon dioxide, with loss of stimulation of respiratory centers and an anoxemia to the tissues. Henderson describes the veno-pressor mechanism as "that power which pushes the blood back through the veins toward the right side of the heart." "This," he says, "is accomplished by the general tonus of the skeletal musculature of the body, particularly the abdominal muscles, diaphragm, and non-striated muscles of the elementary tract; with failure of the veno-pressor mechanism and further lowering the oxygen and carbon dioxide by pollution of the arterial blood, added to the already existing anoxemia and acapnia, there is still further loss of muscular tone, increased hypo-ventilation, stagnation of bronchial secretion, falling of systolic, diastolic, and pulse pressure, finally slowing of the heart rate with diminution of minute cardiac output, disorganization of the nerve centers, and death."

The deaths due to demonstrable pathological lesions of the heart, such as early coronary disease, myocarditis and cardiac decompensation with dilatation, are fewer than we have heretofore surmised. In non-surgical deaths due to chronic pulmonary tuberculosis the myocardium has a pale appearance and shows hypertrophy interspersed with atrophy and fibrosis, with some lymphocytic infiltration and cloudy swelling, which would hold true for the myocardial changes in any death due to chronic sepsis. If one suspects the existence of a damaged

myocardium, such as an early coronary lesion or myocarditis, the recent work done by Butler and Fairbanks, "Effect on Plasma Carbon Dioxide Combining Power," may be a useful source of information as to whether cardiac pathology exists and give us an advanced inkling as to the patient's cardiac condition. This involves the carbon dioxide combining power of the blood plasma after a certain fixed exercise and compared to the known curve of the normal individual.

In this work they had the patient walk up a fifty-foot stairway. The normal healthy individual showed an immediate drop in carbon dioxide combining power of the plasma of the venous blood following exercise, with a return to almost normal in thirty minutes, while at rest. While the patients suffering from non-pulmonary disease, including cases of mild myocarditis, show a gradual drop in carbon dioxide combining power with a slower return to the starting point. A patient with an early coronary lesion with a normal electro-cardiogram showed a progressive though interrupted drop in the combining power, along with rapid fatigue.

Other Causes of Death

Mediastinal flutter is due to an anatomical physiologic cause. Due to the paradoxical movements of the thorax, the patient rebreathes the tidal air which has its gaseous contents changed by an increase of carbon dioxide and decrease of the oxygen, thereby causing an oxygen want. These deaths are due to anatomic hemo-respiratory difficulties causing acute anoxemia.

Thrombosis of the main branches of the pulmonary artery: Kempmeier has collected twenty-three non-surgical cases from the literature, with his own case making twenty-four. I have had two cases following surgical collapse.

Among the etiologic considerations, the two most important are atheroma of the pulmonary arteries and embolism. Atheroma of the pulmonary arteries followed by thrombosis was found in eleven of the twenty-four cases. Posselt, in his monograph on diseases of the pulmonary artery, believes that thrombosis is the result of arteriosclerotic changes in the intima. Some consider it to be syphilitic in origin. The embolic theory is the one most acceptable. There was demonstrated thrombosis of the femoral and iliac veins in five of the above cases. It is believed by several authors that embolism occurs in a branch too small to give the characteristic symptoms of pulmonary embolism with infarction. The small embolus then by accretion develops into a progressing thrombosis gradually extending and involving the main branches of the pulmonary artery. Bilateral thromboses of the main pulmonary branches were found in 45 per cent of the collected cases. In ten cases thrombosis was found in the right main branch and in three cases in the left main branch. Pulmonary abscess was associated with the thrombosis in two cases.

In a personal communication, H. C. Sweany, of the Municipal Tuberculosis Sanatorium, Chicago, Illinois, says, "The most common cause of late death that we have found has been pulmonary thrombosis in the remaining lung."

Causes of death due to the operation may be classified as follows:

A. Error in judgment.
   1. Direct error.
      (a) Too extensive rib resection.
   2. Indirect error (combined with other factors may cause death).
      (a) Too long a time consumed for the operation.
      (b) Improper postoperative management.

B. Error in operative technic.
   1. Direct error.
      (a) Wound infection.
   2. Indirect error.
      (a) Tearing of pleura into a pyopneumothorax, or into the lung, thereby infecting the operating field.
      (b) Extensive tissue trauma.
      (c) Excessive loss of blood during operation.

C. Extension of tuberculosis due to:
   1. Bronchogenic spread.
   2. Bronchial stasis of infected material.
   3. Hematogenous acute general disseminated tuberculosis.

D. Accidental or unavoidable causes.
   1. Direct.
      (a) Air embolism.
      (b) Hemoptysis following operation, death due to acute anoxemia.
      (c) Spontaneous pneumothorax on operated side, or contralateral lung (in cases where this has occurred prior to operation.
      (d) Kinking of bronchus by compression of lung.

right heart.

   1. As seen in the Bernou-Casper op-

E. Compression of large veins and of the eration, causing cardio-respiratory disturbances. This is one reason for the rise in mortality rates in right-sided thoracoplasties.

Causes not due to the operation:

A. Error in selection of individual patients for operation.
   1. Too extensive tuberculosis lesions.
   2. Extensive fibrosis of contralateral lung, with excessive loss of lung parenchyma.
   3. Complications already existing.
      (a) Chronic sepsis causing amyloidosis of liver, spleen, and kidneys.
      (b) Thyrotoxicosis with existing damaged cardiac muscle.
      (c) Diabetes mellitus and syphilis.
      (d) Extreme displacement of heart wherein resection of lower ribs toward left thoracic wall, and release of the chest wall may cause distortion with occlusion of the large vessels with death.

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TREATMENT OF ASTHMA WITH ETHYLHYDROCUPREINE*

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For many years, quinine and quinine derivatives have been advocated in the treatment of pneumonia. Due however to the toxic effects of some of these substances, it failed to come into popular usage. The most recent of these derivatives is ethylhydrocupreine. Ethylhydrocupreine was first suggested for use by Mendel[1] in 1916. He advocated this particular derivative because he felt that its absorption rate could be controlled. Ethylhydrocupreine is soluble in the free hydrochloric acid of the gastric juice of the stomach which changes it into the acid salt. This form may be readily absorbed into the blood stream from the intestinal tract, at times in sufficient concentration to give rise to symptoms of a toxic character.

Mendel advocated the use of five ounces of milk with each dose of the drug, his theory being that the milk would lengthen the time necessary to convert the ethylhydrocupreine into its acid salt and, consequently, it would be absorbed more slowly by the individual.

About two years ago I became interested in the possibility of using ethylhydrocu-

*From Colorado Foundation for Research. Colorado College, Colorado Springs, Colo.

preine as an adjunct in the treatment of some of the so-called bacterial allergies. At that time I was treating a patient that had developed severe asthma following recovery from a type 1 pneumonia. This man had had pneumonia three times within the previous two years—two cases of lobar and one bronchial pneumonia. The last one had been a type 1 lobar type, and seven weeks following recovery from the pneumonia, asthma developed. Tests were made for offending foods, pollens and epidermals, both by scratch and intracutaneous tests, without obtaining any satisfactory reactions. A few foods then showing a slightly suspicious reaction were eliminated from the diet, but this made no apparent change in his condition. At times he would have very marked exacerbations of his asthma without any apparent cause. Bacterial tests were made using autolized culture of organisms and immediate reaction was obtained to the pneumococcus. The following day a large delayed reaction was present to the pneumococcus and to S. aureus and a moderate delayed reaction to streptococcus. An autolized autogenous culture vaccine of staphylococci and pneumococci isolated from the sputum was employed, but, after four months' treatment, there was no change in his condition and at that time it was decided to use ethylhydrocupreine. The results were most striking and, because of almost immediate relief of asthma in this case, a group of patients was selected who had heretofore failed to give a suitable response to all previous therapeutic measures.

In the practice of everyone who is doing allergy, there are always a group of so-called non-reactive cases. These individuals fail to give skin reactions, either of the immediate or delayed types, to scratch or intradermal tests. Likewise, everyone has a group of reactive cases that fail to respond successfully to treatment despite the elimination of all known allergen. The result is the chronic asthmatic case that has always been a difficult case to handle and a source of worry to the allergist. Many of these cases, because they will give an immediate or delayed reaction to bacterial test solutions, have been classified as bacterial allergies. Bacterial allergy does exist, but it is a debatable question as to whether the reactions to bacteria described by Walker[2] have the same significance as do reactions elicited by food tests or pollen tests. Therapy with vaccine on the whole has proved of little value. It is probably neither a desensitization nor a hyposensitization, but rather a form of non-specific protein therapy.

In view of the facts that the pneumococcus is a common habitant of the respiratory tract and that it is frequently found in cases of asthma and chronic asthmatic bronchitis, a group of patients was selected for therapy with ethylhydrocupreine. All of these had previously failed to respond satisfactorily to other forms of treatment. Morgenroth and Schintzer[7] had demonstrated that the drug possesses greater pneumococcidal power than any other quinine product. Baldwin and Rhodes[8] have shown ethylhydrocupreine to be effective against all types of pneumococci.

CASE REPORTS

(See Table on Page 26)

In all, a group of sixteen patients were given ethylhydrocupreine and eleven have shown favorable results, while five have shown no benefit whatsoever. I have separated these cases into groups. In the first group there are seven cases, five of whom showed either an immediate positive reaction with persistent delayed reaction, or a delayed reaction without any immediate positive reaction to the pneumococcus tests solution. Two in this group showed reactions to other bacterial solutions but not to the pneumococcus. In group two, there are four cases that showed a reaction to none of the bacterial tests solutions with the exception that all but one showed a moderate delayed reaction to the streptococcus tests solution. This is probably a false positive reaction. These four cases showed no reaction to other allergens except foods. Group three contains five cases which showed reactions to some allergens and to some bacterial tests solution, but all failed to show any improvement following treatment with ethylhydrocupreine.

Chart 1 shows, in brief, the history of each case and the response to treatment. These cases were all selected as ones that had not shown satisfactory response to other forms of therapy.

Treatment

Ethylhydrocupreine (optochin base) is used in four grain (0.25 gm.) doses. The patient is instructed to eat no breakfast and to take no medication by mouth during the morning. One capsule is taken at 8 a. m. and one at 10 a. m. With each capsule, one full 8 oz. glass of milk is taken and as

GROUP 1

Case	Duration	Severity	Food	Poll.	Epi.	Staph.	Strep.	Pneumo.	Inf.	Misc.	Results
1	2 yrs.	Adrenaline 4 t. 24 hrs.	+	—	—	+	±	+	—	—	No asthma in 11 months
2	7 yrs.	Adrenaline 6-8 in 24 hrs.	—	—	—	+	+	+	—	—	No asthma, took 12 cap., none for 1 mo.
3	1½ yrs.	Adrenaline 2-3 in 24 hrs.	+	+	+	+	—	+	—	—	Asthma once in 2 weeks relieved with 1 dose adrenaline
4	11 yrs.	Adrenaline 3-8 in 24 hrs.	+	—	+	—	+	+	+	+	Averages slight attack once per week, none in 3 weeks
5	9 yrs.	Averages 1 week severe asthma a month.	+	+	+	+	+	—	+	+	Two slight attacks in past 10 months.
6	2 yrs.	Adrenaline every 2 hrs. in day, every 3 hrs. night.	+	—	—	—	+	—	+	—	Treated 1 month. Adrenaline 2-3 times in 24 hrs.
7	8 yrs.	Arthamador every 3 hrs. Ephedrine	+	—	+	—	—	+	—	—	Can obtain complete relief by 2 caps. per week.

GROUP 2

Case	Duration	Severity	Food	Poll.	Epi.	Staph.	Strep.	Pneumo.	Inf.	Misc.	Results
8	3 yrs.	Adrenaline 1-2 in 24 hrs.	+	—	—	—	+	—	—	—	Complete relief for 1 mo.
9	2 yrs.	Ephedrine daily, Adren. 3 per wk.	+?	—	—	—	+	—	—	—	Occasional tightness of chest. Asthma once week.
10	2 yrs.	Adrenaline 2 in 24 hrs.	±	—	—	—	+	—	—	—	About two slight attacks per week.
11	5 yrs.	Ephed. occas. Much tightness. Asthma once in two weeks. Mild.	+	—	—	—	—	—	—	—	Complete relief for past 2 mo. No treatment in past two mo.

GROUP 3

Case	Duration	Severity	Food	Poll.	Epi.	Staph.	Strep.	Pneumo.	Inf.	Misc.	Results
12	7 yrs.	Adrenaline 4 per day	+	+	+	+	+	+	+	—	No relief.
13	4 yrs.	Uses asthmador every two hrs. during day and twice at nite.	+	±	—	—	+	—	—	—	No relief, except less severe cough.
14	1 yr.	Adrenaline 2-3 in 24 hrs.	+	+	—	—	+	—	—	—	No relief.
15	2 yrs.	Adrenaline 4-8 in 24 hrs.	+	—	—	+	—	+	—	—	No relief after one course of treatment.
16	5 yrs.	Adrenaline 2 in 24 hrs.	—	—	+	—	—	—	+	—	No relief.

much more may be taken as is desired. The noon and evening meals are taken as usual and any oral medication during the afternoon and evening. The next two mornings the same schedule is repeated. Then a two-day rest period is given and the above program repeated. Following a second course, each case must be individualized and a program worked out for each patient. Some may be free of asthma and remain free. Others may remain free by taking one capsule each day for two or three days, and then following it with a rest period. The object is to get the patient on as small a dosage as will keep him free. Most cases will remain free after two months' treatment and then possibly an occasional dose, should early signs of asthma appear. Patients who obtain relief with ethylhydrocupreine will notice first that the attacks do not occur in acute spasms, but that a gradual tightness of the chest develops. Expectoration is increased slightly and, instead of being difficult to raise, it is brought up easily and this usually serves to relieve a spasm of the chest. The relief from the terror of fighting for breath is marked in those patients who have spasmodic coughing attacks, because the mucus is raised without effort.

The drug may be productive of toxic symptoms and these are recognized by the manufacturer, who advises cessation of treatment in cases in which the patient complains of tinnitis, gastro-intestinal distress, or visual disturbances. Careful history, inquiring into sensitization to quinine or quinine derivatives should always be gone into with these allergic patients before medication is given. Patch tests may give valuable information as to drug idiosyncrasy. Because the drug is not without danger, and because individuals apparently differ in their ability to tolerate it, it is necessary that each case be put on a minimum dosage.

Discussion

The effect of quinine and quinine preparations on the eye and visual fields has been recognized for years. De Schweinitz[4] made histologic observations on the changes that occurred in the eye and observed the direct effect of quinine on the vasomotor center producing a constriction of the blood vessels and even changes in the blood vessels themselves. Forster[5] conducted a series of experiments with rabbits and found that they tolerated very large doses without showing the toxic effects that man presents. They did show retinal changes, chiefly in the cells, but no ischemia of the retina or evidence of visual disturbances.

For a time after publication by Morgenroth and Levy[6] in 1911, there was considerable confusion as to the use of ethylhydrocupreine and the soluble hydrochloride of ethylhydrocupreine in pneumonia. Possibly many of the cases of visual disturbances recorded up until 1916 were due to the use of the soluble hydrochloride of ethylhydrocupreine, rather than the use of ethylhydrocupreine. In 1916, Uthoff[3] published statistics to show that between 3 to 4 per cent of the patients treated with ethylhydrocupreine had visual disturbances. About this time, Mendel[1] published his article advocating the use of milk with ethylhydrocupreine and from 1916 on this form of treatment has supplemented all other forms of quinine therapy. The idiosyncrasies of certain persons in their reactions to quinine is also found in other derivatives of cinchona bark, and it is therefore difficult to regulate the dosage of these drugs as they may produce symptoms in relatively small quantities. However, few cases of visual impairment are now being reported since the use of milk is combined with ethylhydrocupreine. If they do occur, the immediate use of amyl nitrite inhalation and hot compresses to the eyes to increase the circulation and the use of strychnine sulphate is advocated.

Conclusions

1. Ethylhydrocupreine has been used in a limited number of cases of chronic asthma. While the series is too small to draw any definite conclusions, it would appear that the drug may have a definite place in the therapy of these cases.

2. The drug may be productive of toxic symptoms and it is essential that treatment with the drug cease at the first appearance of symptoms, and that active procedure be

instituted to prevent permanent damage to the patient.

3. Each case must be individualized and placed upon a minimum therapy dosage.

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CASE REPORTS

PLEURODYNIA

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STERLING

Pleurodynia seems at times to occur in epidemic proportion. I wish to make record of such an "epidemic," seventeen cases having been seen by me since September 3 of 1935 and five cases during the summer of 1934.

To my knowledge, no epidemic has been reported west of the Mississippi, but the cases I have seen correspond so closely, clinically, to the published accounts—viz.: sudden onset of severe abdominal pain, pallor, nausea, fever sometimes preceded by a chill, occasionally diarrhea—that I hope, by this means, to arouse the interest of others in order that they may watch for similar cases and report their experiences.

The differential diagnosis is as imperative as it is impossible in the very early stages. Confronted with the patient who can scarcely speak for pain, ofttimes a child, and with members of the household insisting upon immediate relief of the sufferer, a detailed history is difficult to obtain, and a careful examination as grudgingly permitted as it is barren of results. However, if the hypodermic can be postponed for a few minutes, the patient coaxed into a recumbent position with fair relaxation, the abdomen will usually be found to be soft, the tenderness high up and bilateral, chiefly in front and, most important, tender points may be elicited along the sides of the neck. There is an absence of pleural friction sounds, but if the patient is asked to breathe deeply, he will say it hurts.

The abdominal tenderness, however, may be limited to the lower abdomen, and, strangely enough, to the lower right quadrant, centering as accurately at McBurney's point as in any case of acute appendicitis. The latter finding, taken together with a slight elevation of temperature, rapid pulse, and a leucocytosis makes a decision necessary at the earliest possible moment.

Keeping in mind the possibility of epidemic pleurodynia, a delay in surgical intervention with close observation for a few hours will often be rewarded by appearance of pointing symptoms: tender points along the neck, shifting of abdominal tenderness, painful respiration, but marked general improvement within a few hours if the case is one of epidemic pleurodynia.

The fact that the two groups of cases which I have seen have occurred during the mosquito season and that in nearly every case the patient has been able to recall a mosquito bite a few days prior to the onset of the illness, seems to coincide with the theory that the disease is mosquito-borne, and if so, it is to be hoped that freezing weather will rid our patients of this "devil's grip."

Scorpion Deadlier Than Black Widow Spider

More lives have been lost in Arizona from the sting of scorpions than from the bite or sting of any other venomous insects or reptiles, according to the records of the Arizona State Board of Health. The records disclose thirty-five deaths from poisonous insects and reptiles in the past six and one-half years, of which twenty-five were caused by the sting of the scorpion.

This record has caused the State Board of Health to declare the scorpion as the greatest death menace in the state among the insects and reptiles, and far more dangerous to human life than is the black widow spider about which so much has been written recently.

CATGUT TUBE-BREAKERS*

NOLIE MUMEY, M.D.
DENVER

The glass tubes which contain catgut and various suture materials have always been inconvenient to break. This simple aid, which consists of two blocks of wood with a hole drilled in the center, will be found advantageous to the surgical nurse.

The hole is bored to fit the diameter of



the glass tube of catgut at a depth which allows it to come to the mark on the tube.

Advantages

1. Rapid breaking of tubes.
2. Saves gloves.
3. No danger of cutting the hands.
4. Keeps all pieces of glass in one place.
5. Economical.
6. Easy to make.

Every case of persistent unexplained pain in the bone should be regarded provisionally as sarcoma and treated by radiation.—American Journal of Surgery, January, 1935.

Roentgen therapy is the treatment of choice for acute cervical adenitis.—American Journal of Diseases of Children, June, 1935.

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*This idea was suggested by L. C., a graduate nurse.

THE Denver Radiological Club extends its greetings to the readers of Colorado Medicine.

Through arrangement with the Publication Committee, it will edit this column monthly, with the purpose of offering educational material in the field of radiology. This plan suggested itself to the club following its first Mid-Summer Radiological Conference in the Rockies, at which such interest was displayed by members of the profession engaged in other specialties and in general practice as to warrant the feeling that the educational service there begun should be continued regularly in some such manner as this.

It will be our purpose, after this introductory and explanatory issue, to give each month some serious scientific statement or tabloid article on a phase of radiology, as well as terse suggestions as radiological aids in both diagnosis and therapy. We ask every physician to send contributions, whether cynical, humorous, or scientific, to the editorial committee of our club, in care of Colorado Medicine. If anyone wants argument or really desires further information, we shall be more than glad to respond. As for our own contributions, we shall try to make them lead up to our next annual Mid-Summer conference.

This column will be continued indefinitely, or not, depending upon the amount of interest which may be manifested in it by you.

It Has Been Said, That——

If your examination consisted of everything except the x-ray, that is probably just the thing you should not have neglected.

The uninformed man is likely to ignore the x-ray—the lazy man may depend upon it too much. Strike a happy medium.

Medicine, like all arts and sciences, should be practiced as such. The physician who refers many examinations, though they be negative, is the salt of the earth.

PUBLIC HEALTH NOTES

Training for Public Health

The nation-wide program of training, provided by terms of the Social Security Act, will be far-reaching and can accomplish much in the improvement of public health work. The present conditions of haphazard employment of untrained or inadequately trained personnel can be transformed into a system whereby individuals deliberately train for a career in the public health service of some unit of government and, ultimately, we may look forward to the time when such work constitutes a career of service in the best and fullest sense of that term. This program of training will do more to exclude partisanship and consideration of political expediency from public health organizations than all the statutes that might be written, for it insures a service which will win public esteem because of its merit. Such a statement requires no proof. We have already shining examples of its truth in our own U. S. Public Health Service and in many state and local organizations. It is a fundamental step forward not only in the betterment of the public health, but in the betterment of government itself, for it recognizes the principle of trained public servants for public service.—Dr. E. L. Bishop.

The Responsibility of State and Local Authorities

I should like to give special emphasis to just one point that may not be clear in connection with the provisions of the Social Security Act authorizing grants to states for public health work. The Act does not appropriate the funds—it simply authorizes the Act. Therefore the Congress is not bound to appropriate the amounts authorized and may appropriate so much or so little within the limitations of the Act, as it chooses to make available. There can be no doubt that in determining from year to year what the appropriations shall be, the Congress will be influenced by evidence of efficient administration and accomplishment or by the lack of it. We shall all be on trial. If our accomplishment should justify it, there is a possibility that the federal government may even increase its participation in the future; if we should fail, we shall not even hold the appropriations now authorized.

In passing on to the states the responbility for organization of the work and for qualifications of personnel, in the interest of preserving their independence, the Public Health Service rightly places largely upon them the responsibility for accomplishment and for demonstration to the Congress that the grants from the federal government are being wisely expended. May I, therefore, urge those of you who will participate in the administration of these funds to see that the highest standards of professional service are maintained, that appointments are not made solely because of political considerations or personal friendship, and that no dollar is wasted. After all, the appropriations will be yours, and likewise the responsibility for preserving them.—Assistant Surgeon General, C. E. Waller.

BOOK REVIEWS

Daily Log for Physicians. Dr. Colwell's. Colwell Publishing Co., Champaign, Ill. $6.00.

This is the month to start the use of this one volume ledger of business and professional activities. The splendidly arranged plan for itemizing income and outgo, and for recording professional acts by the day, is good business. It simplifies preparing one's income tax forms. Physicians sorely need a "standard" bookkeeping system. Here is the best answer that we know.

A Text Book of Bacteriology. By Thurman B. Rice, A.M., M.D., Professor of Bacteriology and Public Health, Indiana University, School of Medicine. Philadelphia: W. B. Saunders. 1935.

Dr. Rice has condensed into a book of 550 pages the fundamentals of bacteriology and has brought the subject matter right up to date. Theoretical discussions on controversial subjects have given place to the more practical phases of the subject, such as the interpretation of laboratory findings, diagnosis, prognosis, specific therapy and sanitary control. Many of the technical processes are described in detail and can be carried out by the average practicing physician who is limited for time and has little equipment.

The main criticism of the book is the lack of bibliography and references. However, to many who are not interested in research, this might not be a serious handicap.

The later developments in bacteriophage and microbic dissociation are well handled, and the chapter on Electrophoretic Charge as related to

Immunologic Reactions is most instructive. Also the discussions on the distribution of the blood groups and the methods of typing blood are most valuable.

One little possible error has crept in, as usual in works on bacteriology, namely, that the intestinal contents of the newborn is sterile. Work done by several investigators in the University of Colorado School of Medicine has shown that organisms occur in about 30 per cent of the meconium of newborn infants.

The book on the whole is well written, and illustrated by numerous drawings made by the author, which drawings are regarded by many as more instructive than reproductions of microphotographs.

SEVERANCE BURRAGE.

Robert Harvey Reed. A Sanitary Pioneer in Ohio. By Robert G. Paterson, Ph.D. Columbus: The Ohio Public Health Association.

This small book contains 88 pages in wrappers, limited to 300 copies. It deals with the biography of Robert Harvey Reed, a pioneer in sanitation. Dr. Reed was in the United States army and was also a surgeon for the Union Pacific coal mines and railway. For a short time he was located at Rock Springs, Wyoming.

The book contains a few illustrations which are pasted in. It has a chronology of Dr. Reed's activities. It can hardly be classed as a piece of Americana. It belongs in the domain of medical biography.

NOLIE MUMEY.

Practical Clinical Psychiatry. For Students and Practitioners. By Edward A. Strecker, A.M., Sc.D., M.D., Professor of Psychiatry and Chairman of the Department of Psychiatry, School of Medicine, University of Pennsylvania; Chief of Service and Consultant to the Institute of the Pennsylvania Hospital; Psychiatrist to the Pennsylvania and Philadelphia Hospitals; Neurologist to the Germantown Hospital, Philadelphia; Consulting Psychiatrist to Bryn Mawr College, and to the U. S. Veterans Bureau; formerly Professor of Nervous and Mental Diseases, Jefferson Medical College, Philadelphia, and Clinical Professor of Psychiatry and Mental Hygiene, Yale University, etc., and Franklin G. Ebaugh, A.B., M.D., Professor of Psychiatry, University of Colorado Medical School; Director, Colorado Psychopathic Hospital; Consulting Physician, Children's Hospital, National Jewish Hospital and Denver General Hospital, Denver, Colorado; Director of Division of Psychiatric Education, National Committee for Mental Hygiene, New York City, N. Y. Fourth Edition. Rewritten and enlarged with sixty illustrations and a glossary. Philadelphia: P. Blakiston's Son & Company, Inc. Price $5.00.

This edition is decidedly rewritten and revised. It illustrates the psychoses and neuroses with typical and interesting case histories.

The chief addition to the book is a treatise on Adolph Myers' psycho-biological concepts of mental disorders, which is the most rational working basis for mental diseases we have.

The chapter on "the psycho-neurotic type" is a veritable challenge to the strong headed general practitioner, who boasts he knows nothing about psychiatry and is determined he can intelligently practice medicine without any knowledge of the subject.

EDWARD J. DELEHANTY.

Diseases of the Thyroid Gland. By Arthur E. Hertzler, M.D., Chief Surgeon, Halstead Hospital; Professor of Surgery, University of Kansas. With a chapter on Hospital Management of Goiter Patients by Victor E. Chesky, M.D., Chief Resident Surgeon, Halstead Hospital. Third Edition, entirely rewritten. St. Louis: The C. V. Mosby Company. Price $7.50.

This work is an expression of the author's own experience in dealing with affections of the thyroid gland. Dr. Hertzler has been in close contact with a large number of goiter patients over prolonged periods which would make his conclusions on this subject worth while.

Continued observation of patients has led Dr. Hertzler to believe that goiter is a continuous process, the normal termination of which is a cardiac death. Pathology is placed in a minor role in this edition.

The author, as well as many other authorities on diseases of the thyroid gland, believes that more radical surgery is indicated, even to complete ablation of the thyroid gland in certain selected cases. He has not seen myxedema following subtotal thyroidectomy.

Dr. Hertzler rightly states that the basal metabolic rate is only a measure of tissue destruction and bears no evidence of the other phases of thyroid disease. It is only one factor and a minor one when considering thyroid diseases as a whole. The author says that the acceptance of this test as a measure of all the mischief the disease may do is responsible for most of our misconceptions regarding the nature of goiter.

The presentation of statistics has been avoided as the author thinks that the statistics as now published are of little value. They present the disease in an entirely too optimistic light and the permanent value of any treatment is overestimated.

Chapter nine deals with atypical goiter or "interstitial goiter." It is my belief that it is a dangerous chapter for the uninitiated goiter student to read. The type of case referred to in this chapter is and always has been below par. Every doctor has a certain number of these chronic complainers under his observation from time to time but they do not make up the stable part of his practice as they are constantly going from one physician to another, seeking help which they never obtain. Complete ablation of the thyroid as done by Dr. Hertzler in these constitutional inferior cases may be beneficial to a degree but I feel certain that to follow out his thought and teachings would lead to many unnecessary operations.

Every one in our profession should be vitally interested in the normal physiology as well as the pathology of the thyroid gland on account of the tremendous part it plays in health and disease. This work of Dr. Hertzler is well written and much information can be obtained on this subject about which we know too little but about which we do know certain definite truths. We all must know these facts in order to diagnose and advise unfortunate patients suffering from thyroid dysfunction.

GEORGE B. KENT.

All children under one year who pass pass blood per rectum have either got intussusception or flat feet.—British Med. J., June 29, 1935.

Medical Organization

Look for Your Own Name

THAT new kind of Membership Directory, announced in last month's issue, appears now as a supplement to the January number of Colorado Medicine. We advise every member to look for his own name, and by thus checking against any possible error, assist the Executive Office of the Society in making future issues even more valuable.

Comments upon the new directory idea would be appreciated. Its issuance is no simple matter. Even in one year, 20 per cent of the names involve some change—a new address, a new telephone number, a transfer of membership from one county society to another—wholly aside from deaths and new members.

Keep the directory as a handy desk reference, and give the Executive Office your suggestions for its further improvement.

County Society Adopts District Designation

HENCEFORTH the name "Eastern Colorado Medical Society" will be used instead of "Kit Carson County Medical Society" for that active and growing constituent which embraces the three east-central counties of Colorado, Kit Carson, Lincoln, and Cheyenne counties.

For many years the majority of members of this society resided in Kit Carson County. But in the last three years the adjoining counties have increased their medical society membership, and have justly felt that they were not properly identified by the society's name. At its December meeting the society voted to change its name, subject to approval of the State Society.

The State Society's Committee on Credentials unanimously approved the change, which has also been ratified by the Board of Trustees. All records of the name were officially changed as of January 1, 1936.

Congratulations and best wishes, therefore, to the Eastern Colorado Medical Society, to its retiring president, Dr. John E. Cavey of Stratton, to its new president, Dr. Leonard N. Myers, and especially to its perennial hard-working secretary, Dr. William L. McBride of Seibert. May its rebirth presage further growth and continued potency!

Don't Confuse W.P.A. With State Compensation

THE Colorado offices of the Works Progress Administration report that many physicians are confusing that office with the office of the State Industrial Commission and the latter's Workmen's Compensation Fund.

All correspondence and bills relating to industrial surgery and allied work done by physicians for the Works Progress Administration should be sent to Mr. William H. Schwade, District Representative for the W. P. A., 408 Municipal Building, Denver, and **not** to the State Industrial Commission. The W.P.A. is a federal bureau and is not in any way connected with the state government.

Care in properly addressing such communications will avoid delays in payments for care given to injured W.P.A. employees.

Your Committee Wants Suggestions

WITHIN a few days—if not already received—every member of the State Society will receive a double-return postcard from the Committee on Scientific Work. Every member is urged to reply on the return half of the card, at once. No stamp is needed, and no signature is required.

These cards are in compliance with the instructions of the House of Delegates that the questionnaire plan for determining members' wishes be continued another year. The compilation of replies will determine the program for our next Annual Session.

Members on the Western Slope are particularly interested in the program this year, for with the meeting next September located at Glenwood Springs the Western Slope members will have shorter distances to travel than any year in the last ten.

Again, be sure to make the check marks indicating your program preferences, and remail that return postcard. Your vote for the subjects you would most like to hear will help the Committee prepare the type of program that the membership really wants.

Obituary

Knud Hanson

Dr. Knud Hanson was born in Bergen, Norway, July 11, 1874, and came to America at the age of 16. He received his preliminary education in Norway and was a student at Rush Medical College for three years. Then, because of ill health, he came to Colorado to complete his undergraduate studies, and received his medical degree from the Denver College of Medicine in 1898. After his hospital service at St. Luke's Hospital, he came to Grand Junction, Colorado, where he had been in active practice ever since.

Dr. Hanson had served as county coroner of Mesa County and as physician to the Indian school located at Grand Junction, but was best known for his work in his private practice. He was a member of the Mesa County Medical Society and the Colorado State Medical Society and a fellow of the American Medical Association.

Dr. Hanson died of pneumonia at his apartments at La Court Hotel, Grand Junction, Colorado, December 25. He never married and is survived by no near relatives in this country.

Howell T. Pershing

The colorful life of this pioneer alienist came to a close in Denver on November 29. He had been in poor health for many months. Thus ended a career of outstanding activity for nearly half a century. Dr. Pershing was born in Johnstown, Pa., in 1858. He was graduated from Lafayette College and from the University of Pennsylvania, receiving the M.D. degree from the latter in 1883. After distinguishing himself as a teacher of languages and sciences for a few years, he came to Colorado in 1889. Since that time he has distinguished himself as a teacher, writer, and research worker in the field of neurology.

Dr. Pershing was nationally known and active in general medical organization and in his chosen specialty. Surviving him are his son, Dr. Howell T. Pershing, Jr.; a cousin, Attorney James H. Pershing; a niece, Miss Louise Carter, and two brothers, Dr. Cyrus L. Pershing of Denver and E. H. Pershing, now in Honolulu.

MEDICAL SOCIETIES

CROWLEY COUNTY

Drs. Harold T. Low and B. E. Konwaler of Pueblo were guest speakers at the November meeting of the Crowley County Society, held at the Ordway Hospital, November 15. They discussed the management and treatment of venereal diseases. At the December meeting, held Decembr 13 at the Good Samaritan Hospital, officers were elected for the ensuing year, as follows: J. A. Hipp, Olney Springs, President; J. B. Stanley, Ordway, Vice President; W. M. Desmond, Ordway, Secretary.

J. A. HIPP,
Secretary.

* * *

DELTA COUNTY

Dr. L. A. Hick of Delta delivered a paper on Eczema at the regular meeting of the Delta County Medical Society held in Dr. Cleland's office in Delta, November 22, 1935.

LEE BAST,
Secretary.

* * *

KIT CARSON COUNTY (EASTERN COLORADO)

Dr. L. N. Myers was elected President, Dr. E. L. Law Vice President, and Dr. W. L. McBride Secretary-Treasurer of the Society at its regular meeting held December 2 at the Burlington Hospital, Burlington. Following the meeting the doctors and their wives attended the theater and Dr. and Mrs. Robinson were hosts at a midnight lunch. At this meeting the Society adopted a resolution to change the name of the Society from "Kit Carson County" to "Eastern Colorado," subject to approval of the State Medical Society, on account of the three-county jurisdiction. The change will become effective January 1, 1936.

W. L. McBRIDE,
Secretary.

* * *

LARIMER COUNTY

Dr. M. F. Haralson of the United States Public Health Service, who is Acting Secretary of the State Board of Health, was the guest speaker at the regular meeting of the Larimer County Medical Society held at the College Cafeteria, Fort Collins, on December 4. Dr. Haralson discussed social security legislation and the present status of public health work in Colorado. Officers for 1936 were elected at this meeting. Dr. Roy L. Gleason of Fort Collins was elected President to succeed Dr. Roy F. Wiest of Estes Park, and Dr. Thad C. Brown of Fort Collins was elected to succeed Dr. Lawrence D. Dickey of Fort Collins as Secretary.

WOMAN'S AUXILIARY

New Year's Resolution

In spite of the New Deal, some old customs should be retained and practiced. Remember the positive assurance, as contained in the Holy Writ, that "It is more blessed to give than to receive."

Being mindful of the many blessings which have fallen to your lot in the past year, and as an evidence of thankfulness, why not resolve that in the New Year, that you will contribute to THE BENEVOLENT FUND for indigent and aged physicians. There are at the present time, a number of worthy cases where help is sorely needed, but our Fund has not as reached such proportions that this help can be given.

A donation, bequest, or an insurance policy would further this exceedingly worthy object and would be most thankfully received.

MRS. GEORGE P. (REBA) LINGENFELTER,
Chairman.

COLORADO STATE MEDICAL SOCIETY

Officers, 1935-1936

President: Walter W. King, Denver.

President-elect: A. J. Markley, Denver.

Vice Presidents: First, L. W. Bortree, Colorado Springs; Second, Herman C. Graves, Grand Junction; Third, A. C. Sudan, Kremmling; Fourth, C. W. Bixler, Erie.

Constitutional Sec'y.: J. S. Bouslog, Denver (1936).
Treasurer: J. B. Hartwell, Colorado Springs (1938).
(The above officers constitute the Board of Trustees of the Society.)

Executive Secretary: Mr. Harvey T. Sethman, 537 Republic Bldg., Denver; telephone KEystone 0870.

Delegates to American Medical Association: John W. Amesse, Denver (1936); Alternate, John B. Crouch, Colorado Springs (1936); Harold T. Low, Pueblo (1937); Alternate, John Andrew, Longmont (1937).

Councillors:		Term Expires
District No. 1	F. W. Lockwood, Fort Morgan	1936
District No. 2	Ella A. Mead, Greeley	1936
District No. 3	George P. Lingenfelter, Denver, Chairman	1936
District No. 4	C. T. Knuckey, Lamar	1938
District No. 5	W. L. Newburn, Trinidad	1938
District No. 6	C. Rex Fuller, Salida	1938
District No. 7	A. L. Burnett, Durango	1937
District No. 8	Lee Bast, Delta	1937
District No. 9	W. W. Crook, Glenwood Springs	1937

Standing Committees, 1935-1936

Credentials: J. S. Bouslog, Denver, Chairman; O. E. Benell, Greeley; O. B. Rensch, Durango.

Scientific Work: Philip Hillkowitz, Denver, Chairman; Thad P. Sears, Denver; Atha Thomas, Denver.

Arrangements: W. W. Crook, Glenwood Springs, Chairman; R. B. Porter, Glenwood Springs; Warren H. Twining, Aspen; F. A. Humphrey, Fort Collins.

Public Policy: William H. Halley, Denver, Chairman; Gerrit Heusinkveld, Denver, Vice Chairman; Hamilton I. Barnard, Denver; Maurice Katzman, Denver; W. T. Brinton, Denver; C. H. Boissevain, Colorado Springs; J. S. Norman, Pueblo; Charles H. Platz, Fort Collins; George H. Curfman, Salida; W. W. King, Denver, ex-officio; J. S. Bouslog, Denver, ex-officio; Mr. H. T. Sethman, Denver, ex-officio.

Publication: C. F. Kemper, Denver (1936), Chairman; C. S. Bluemel, Denver (1937; Osgoode S. Philpott, Denver (1938).

Medical Defense: Frank B. Stephenson, Denver (1936) Chairman; Edward Delehanty, Denver (1937); T. E. Beyer, Denver (1938).

Medical Education and Hospitals: John Andrew, Longmont, Chairman; G. E. Calonge, La Junta; John G. Ryan, Denver.

Library and Medical Literature: Gerald B. Webb, Colorado Springs, Chairman; Frank R. Spencer, Boulder; John W. Amesse, Denver.

Cooperation With Allied Professions: John R. Evans, Denver, Chairman; Herbert A. Black, Pueblo; B. B. Jaffa, Denver.

Medical Economics: W. Walter Wasson, Denver, Chairman; Jack G. Hutton, Denver; Philip Hillkowitz, Denver.

Necrology: A. C. McClanahan, Delta, Chairman; Jefferson C. W. Davis, Denver; Charles B. Dyde, Greeley.

Special Committees, 1935-1936

Postgraduate Clinics: W. T. H. Baker, Pueblo, Chairman; John M. Foster, Jr., Denver; John B. Davis, Denver; G. M. Blickensderfer, Denver; L. N. Myers, Cheyenne Wells.

Cancer Education: Lyman W. Mason, Denver (1936); C. T. Ryder, Colorado Springs (1936); J. B. Hartwell, Colorado Springs (1936); George H. Curfman, Salida (1937); George A. Unfug, Pueblo (1937); J. E. Naugle, Sterling (1937); Carl W. Maynard, Pueblo (1938); Harry S. Finney, Denver (1938); Sanford Withers, Denver (1938).

Tuberculosis Education: Charles O. Giese, Colorado Springs, Chairman; W. N. Beggs, Denver; H. J. Corper, Denver.

Advisory to the School of Medicine: N. A. Madler, Greeley, Chairman; W. W. Haggart, Denver; R. W. Hoyt, Denver; Philip W. Whiteley, Denver; W. B. Hardesty, Berthoud.

Advisory to the Board of Health: John W. Amesse, Denver, Chairman; Ralph S. Johnston, La Junta; Lawrence D. Dickey, Fort Collins; Ralph H. Verploeg, Denver; D. A. Vanderhoof, Colorado Springs.

Advisory to the F.E.R.A.: F. Julian Maier, Denver, Chairman; F. A. Humphrey, Fort Collins; W. A. Campbell, Jr, Colorado Springs.

Military Affairs: G. P. Lingenfelter, Denver, Chairman; Nolie Mumey, Denver; Duane Hartshorn, Fort Collins.

Gratuitous Medical Services: Lorenz W. Frank Denver, Chairman; R. W. Arndt, Denver, Vice Chairman; T. D. Cunningham, Denver; F. O. Kettlekamp, Colorado Springs; Royal H. Finney, Pueblo.

Delegates to Colorado Council of State-wide Health Agencies: W. H. Halley, Denver; Harry A. Alexander, Boulder.

Constituent Societies Meeting Dates; Secretaries

Adams County—Quarterly, date set by president and secretary; secretary, J. C. Stucki, Brighton.

Arapahoe County—Last Monday of each month; secretary, N. Paul Isbell, Englewood.

Boulder County—Second Thursday of each month; secretary, Warren M. Gilbert, Boulder.

Chaffee County—First Tuesday of each month; secretary, C. Rex Fuller, Salida.

Clear Creek Valley—Second Tuesday of each quarter; secretary, O. R. Sunderland, Edgewater.

Crowley County—Second Wednesday of each month; secretary, J. A. Hipp, Olney Springs.

Delta County—Last Friday of each month; secretary, Lee Bast, Delta.

Denver County—First and third Tuesday of each month; secretary, F. Julian Maier, Denver.

Eastern Colorado—Quarterly, first Monday in December, March, June and September; secretary, W. L. McBride, Seibert.

El Paso County—Second Wednesday of each month, secretary, Harry C. Bryan, Colorado Springs.

Fremont County—Fourth Monday of each month; secretary, Archie Bee, Canon City.

Garfield County—Last Thursday of each month; secretary, R. B. Porter, Glenwood Springs.

Huerfano County—Third Thursday of each month; secretary, J. R. Fowler, Tioga.

Lake County—First Thursday of each month; secretary, J. C. Strong, Leadville.

Larimer County—First Wednesday of each month; secretary, Thad C. Brown, Fort Collins.

Las Animas County—First Friday of each month; secretary, James G. Espey, Jr., Trinidad.

Mesa County—Third Tuesday of each month; secretary, F. J. McDonough, Grand Junction.

Montrose County—First Thursday of each month; secretary, C. E. Lockwood, Montrose.

Morgan County—Last Monday of each quarter; secretary, Paul E. Woodward, Fort Morgan.

Northeast Colorado—Second Thursday in each month; secretary, E. P. Hummel, Sterling.

Northwestern Colorado—Second Thursday of each month; secretary, Duane Turner, Steamboat Springs.

Otero County—Second Friday of each month; secretary, C. E. Morse, La Junta.

Prowers County—First Tuesday of each quarter; secretary, C. T. Knuckey, Lamar.

Pueblo County—First and Third Tuesday of each month; secretary, Jesse W. White, Pueblo.

San Juan—Second Saturday, January and alternate months; secretary, A. L. Burnett, Durango.

San Luis Valley—Fifteenth of each month; secretary, James R. Hurley, Alamosa.

Washington and Yuma Counties—First Tuesday of each quarter; secretary, M. L. Crawford, Akron.

Weld County—First Monday of each month; secretary, T. C. Wilmoth, Greeley.

Wyoming Section

JANUARY
1936

Editorial

The American Medical Association

For the past eighteen years we have met with the Secretaries and Editors of the different state societies and with the head officers and Board of Trustees of the American Medical Association at Chicago. Eighteen years of such meetings ought to have taught us something about the A. M. A. What have we learned that will be of use to the average medical man?

Just as our national government consists of a President, Vice President, members of the Cabinet, the Congress of the United States of America, different state and county forms of government and, at the base of all, the average citizen who after all is the government of the United States of America—just so is the A. M. A. organized. All else are simply hired men to do the voters' bidding. He rules, and if his officers from the President down do not do as he wishes it is in his power to make such changes in policy and organization as he desires.

This is true of our great medical organization. The members rule. If the officers do not do what the membership desires, it is up to the members to make such changes as they feel necessary. In our county societies we elect delegates to the House of Delegates which is the law-making body of our state societies. The House of Delegates of the different states in turn elects delegates and alternates who make up the House of Delegates of the American Medical Association. These men come from each state just as our congressmen do to the national capital. But they have greater powers than do our congressmen because they not only make the laws, but also elect the officers and trustees of the great organization. These delegates, like our congressmen, are elected according to the membership of each state Society. At the annual meetings which are held in different parts of the country the House of Delegates assembles and at times, as may be necessary, they meet in special session.

As we see the organization year after year we realize that only a few of the thousands of members grasp what great things are being accomplished by this, the greatest of all medical organizations. Whose fault is it that every member does know the facts? We are prompt in assuming part of the blame. As Secretary many letters are received from the A. M. A. together with dozens of reports of the different bureaus.

Continuing the comparison: The President of the United States has his Cabinet which is made up of the different heads of various departments. So also the A. M. A. has a President and a President-Elect, a Secretary, Treasurer, Editor of the Journal, and a Board of Trustees who look after the financial matters and emergency developments that occur when the House of Delegates is not in session. The President serves for one year, as also will the President-Elect when the term of the President is completed.

Fortunate indeed has it been for this great organization that Dr. Olin West has occupied the office of Secretary for so many years. You, as an average member, know very little about Dr. West. He is so much in the background that only a small number of the membership know, appreciate, and love him as he deserves. You know Dr. Morris Fishbein, the able editor of the Journal, by his writings and speeches. He is a whirlwind. The amount of work he does in one year is almost unbelievable. One of the keenest minds we have ever known! Of course, he makes some enemies, and he wouldn't be worth his salt if he didn't.

To go down the list of the different departments would make too long an editorial, but we do expect in the future to bring the readers in contact with more of the activities.

When the Secretaries and Editors of the State Societies met this year at Chicago, November 15 and 16, with the officers of the A. M. A. the following subjects were discussed: "Reciprocal Relations Between State and County Societies and the Council on Medical Education and Hospitals," "Some Phases of the Work of the Council on Pharmacy and Chemistry of the A. M. A.," "Our Potential Postgraduate Resources and the Teaching of the Teachers," "The Need of Concerted Action on the Part of All Units of the Organized Profession," "A Basis for Future Developments of Medical Service," "The American Medical Association and State Medical Journals," "Dual Membership," "Helping the Patient to Secure Competent Medical Service," "Publicity of Information Regarding Medical Economics," and "A Survey of Medical Organizations." Open discussion took place on: 1. Topics Submitted by the Committee on Legislative Activities. 2. The Social Security Act. 3. Health Surveys. The addresses given by the President, President-Elect, and Secretary were outstanding achievements and one whole evening was spent by the State Editors in discussing the problems which the Editors have to meet all over the United States.

Our traveling expenses and a per diem of five dollars were paid by the American Medical Association so that all of this information costs nothing to any State Medical Society. To meet with some of the brightest men who are working for the good of the profession for two days pays any man who is fortunate enough to attend for the time spent in going, attending, and returning from these meetings. And do you know that you nor your county nor state society contributes one penny to the support of the American Medical Association except when you pay your $7.00 subscription fee to the greatest medical journal in the world or subscribe to some other A. M. A. produced reading matter? The profits from these publications pay all the bills of the A. M. A.

E. W.

Symptom-Producing Thymus Enlargement Mostly Confined to Female Children

A RECENT case presented an enlarged thymus extending upwards and making a tumor which not only simulated a peritonsiler abscess in the throat but also greatly enlarged nodular masses on the right side of the neck. These masses, appearing like tuberculous glands, were all connected with the substernal thymus. A diminutive five-month-old child was brought to our office, by a one-legged shepherder and his wife, gasping and crowing at every breath. This little one weighed twelve pounds and her parents gave a history of the growth having been present at birth. The difficulty in breathing was also noticed at birth.

Examination revealed a mass projecting into the right side of the throat which was hard; no fluctuation could be felt with the examining finger. However, the white blood count was over twenty thousand and a temperature at the time of examination was 101.6°. Wassermann and tuberculin tests were negative.

Within a few days the breathing became more difficult and shortly thereafter the little one could not swallow her milk. An operation under local anesthetic allowed the removal of one mass about the size of a man's thumb, but down among the neck muscles a larger tumor was removed. This second piece was just in front of the cervical vertebrae. Still the crowing noise persisted. The next day two x-rays were taken. The day of the operation and the night following were stormy and the oxygen tent and artificial respiration carried the little one over, although a catheter could not be passed into the esophagus. The second day a nasal catheter carried the first nourishment into the stomach.

Following the taking of the x-rays, improvement was apparent. Within four days the little one could swallow milk from a nippled bottle. A 1½-minute exposure at 14 inches, 2 mm. aluminum filter, 5-inch spark gap, 3 milliamperes was followed in ten days with a second one.

The remarkable improvement following the x-ray exposures and treatments is most striking. The little red head has gained sev-

eral pound and only when she cries does any crowing occur. Dr. Carroll Eugene Cook of Chicago states that these crowing symptoms are confined to female children and that in the case of two pair of twins he has had under treatment in the past year the girl member in each "twinship" was the one affected and not the male in either instance.

Pathological examination proved the masses removed to be thymus.

E. W.

NOTICE:

Pay Your Dues!

IN order to remain in good standing in your county, state, and American Medical Associations it is necessary that you pay your dues during the month of January. The amount of the county dues varies somewhat in the different counties of the state, but as a New Year's surprise the House of Delegates voted to reduce the state dues to eight dollars. You do not have to pay any dues to the A. M. A., but paid up membership in your county and state societies makes you a member of the A. M. A.

Make payment of dues to your county secretary for both county and state dues. If you are not a member of a county society remit direct to the State Secretary at Sheridan, Wyoming. E. W.

Obituary

Homer Raile Lathrop

Dr. Homer R. Lathrop died at 11 a. m. December 4, 1935, at Casper, Wyoming, after a very short illness. He was born February 10, 1877, in Princeton, Illinois, attended the Princeton schools, and was graduated from the Rush Medical College, Chicago, in 1901.

He was interne in St. Anthony's Hospital Denver, Colorado, in 1902, then for two years physician in charge of Cheesman Dam construction near Denver. Dr. Lathrop came to Wyoming in 1905 to assume the duties of contract surgeon in charge at the Pathfinder Dam, a federal reclamation project upon which construction was started that year. After completion of the project and termination of his duties in that regard, Dr. Lathrop came to Casper to open the general practice which he maintained until his death. He became the chief resident surgeon there for the Midwest Refining Company, the Standard Oil Company of Indiana, and other oil companies, having headquarters there and operations in the Salt Creek field. He was also physician and surgeon for both the Chicago & Northwestern and Chicago, Burlington & Quincy Railroads.

Dr. Lathrop and Miss Jean W. Brooks, a daughter of former Governor and Mrs. B. B. Brooks, were married September 9, 1914. A daughter, Mary Hester, was born in 1915, and a son, Homer R. Lathrop, Jr., in 1919.

Dr. Lathrop was a man of brilliant attainments, of great personal vigor and with a keen, highly trained mind. He is recalled by those who knew him best as a man of dynamic personality, particularly gifted in his chosen profession. An individual with the broad knowledge and vigorous energy he possessed was not one to be limited solely within the scope of his profession, and Dr. Lathrop is as well remembered for his active participation in civic and social affairs as for his pre-eminence as a physician and surgeon. He was a great believer in the growth and promising future of the community to which he had dedicated his career, and he gave unstintingly of his time and purse during the years in advancing constructive community enterprises. A leader himself, he was frequently at the head of movements toward this end. He was a member of many organizations, including the Masons, Elks, Odd Fellows, Rebeccas and other fraternal groups.

Dr. Lathrop will be remembered by many for the hospital institutions he established and maintained in Casper some years ago. These included the Casper Private Hospital and the Women's and Children's, the former of which enjoyed a particularly high rating. He was also placed in charge of the general hospital maintained in the Salt Creek field. After the rush conditions, when oil production was at its peak, had subsided and a need for these facilities was no longer imperative, Dr. Lathrop closed his private hospitals and became identified with the Memorial Hospital staff, of which he was president for 1934 and 1935. Next to Dr. Dean, Dr. Lathrop had practiced longer in Casper than any other physician.

Always an active man and keenly interested in outdoor pursuits, Dr. Lathrop was well known for his enthusiasm in the conservation of Wyoming's wild life and the pleasures of outdoor recreation. He owned ranches south of Casper, and there raised fine horses and purebred cattle.

Not the least among his many interests was politics. At one time Dr. Lathrop served as both secretary and chairman of the Republican county central committee, and was at one time rather prominently mentioned for governor of Wyoming. While he accomplished much for the community and did much of constructive good, he never enjoyed the bugles of public attention. He was publicity shy, invariably avoiding rather than courting attention and much that he did never became a matter of general information.

Dr. Homer R. Lathrop was a Fellow of the American College of Surgeons, a member of the A. M. A., the Wyoming State Medical Society of which he was one time president, and of the Natrona County Medical Society. The doctors of Wyoming will miss his genial presence, his timely advice, and will long remember his individual personality, ability, and enthusiasm for his profession.

You cannot be a good doctor without pity.—Axel Munthe.

For many patients hope is the best medicine.—Lindsay.

CHOLECYSTITIS*

E. F. ROOT, M.D.
SALT LAKE CITY

The title of this paper is somewhat misleading, for cholecystitis is only part of a syndrome. It does not occur as a distinct and independent entity. Always the entire biliary tree and perhaps more or less of the endocrine glands are involved.

The liver is the largest and one of the most important organs of the body. Whatever affects the liver in any way must have some effect on the body as a whole and on the surrounding structures. The gall bladder contains a portion of the bile and would necessarily be affected by any departure from normal; also it must be affected by abnormal conditions of adjacent organs. The gall bladder is the only reservoir for the output of the liver except the small amount stored in the hepatic ducts. Bile is not a continuous product of the liver, but is only secreted as it is needed, just as the gastric secretion is produced only as it is stimulated by the presence of food. Bile flow begins when the partly digested meal begins to come over into the duodenum. It then continues until the stomach has emptied. The gall bladder holds a small amount in reserve to start this process which is then taken up by the liver and is probably carried on exclusively from the liver through the hepatic ducts. The pancreatic secretion begins simultaneously with the bile flow. After the stomach, the pancreas and liver contribute their part to digestion, assimilation, and excretion. So whatever upsets the normal output of these most important organs must profoundly affect the entire state of health.

Doctor Crile, in his thesis on life, makes the brain the positive poll and the liver the negative. If he is right the liver sustains as important a function as the brain. The brain is a well protected organ, encased in bone and suspended in a waterbed. The liver is about equally well protected, but it is more exposed to damage from adjacent organs, notably the stomach and duodenum. Any injury by trauma or disease of the stomach or duodenum must be reflected to the liver.

How often we have ulcer or some disease of the stomach or duodenum and forget to look further to determine whether the liver is functioning normally. Also a great deal of the suspected stomach or duodenal disease is only or primarily disease of the liver or of the gall bladder. Gastric disturbances, nausea, vomiting, pain in the stomach, headache, the so-called migraine, constipation, flatulence, anorexia, etc., are more often due to liver disfunction or gall bladder disease than we have been willing to admit. Without positive evidence of ulcer of the stomach or duodenum one should suspect and examine for gall bladder disease. Pain from obstructed bile, either from the gall bladder or ducts, is often in the pit of the stomach. It may be asked why I have not put emphasis on the pains of appendicitis. The reason is that most cases of appendicitis can be differentiated, except the unrotated appendix that lies next to the gall bladder. Then it does not matter, as operation is demanded.

Anything causing disturbance or inflammation of the gall bladder or ducts causes some disturbance of the adjacent organs. A badly inflamed gall bladder usually becomes adherent to whatever is in contact with it. Most of the upper abdominal organs may become more or less grown into one mass of adhesions. An ulcer in the pyloric end of the stomach or duodenum, or a neoplasm of the pylorus may cause a general inflammation of the upper quadrant and involve the liver and incarcerate the gall bladder. Subphrenic abscess sometimes begins from an inflamed or abscessed gall bladder. Pleurisy with effusion on the right side may perforate and cause abscess below, but this should be diagnosed from the history and x-ray findings.

I believe it can be laid down, as a rule, that stones in gall bladder are always preceded by cholecystitis. Cholecystitis causes swelling of the mucosa, consequently slowing of the bile flow. Bile in the gall bladder is more concentrated and less fluid than bile flowing in the ducts freshly secreted. Bile stasis forms into cholesterol

*Presented before the Wyoming State Medical Society at Lander, August 13, 1935.

masses, which form a nucleus for gall stones.

Acute cholecystitis is liable to close the cystic duct by swelling, thus ending in an empyema of the gall bladder. This empyema of the gall bladder without stone will persist until released by drainage or cholecystectomy. An old case of empyema causes gastric symptoms as well as general malaise, so much so that it is hard sometimes to differentiate it from disease of the stomach itself. These cases call for complete gastro-intestinal x-ray examination, including cholecystography. If this is done and no pathology is found and the gall bladder does not show, one is certain that the organ is closed and a diagnosis of empyema is practically assured. Of course when diagnosis is established one would not hesitate to operate, as that offers the only means of relief. This means cholecystectomy in most cases. Occasionally one might wish to use the remains of the gall bladder for a drain tube, but these cases have gone too far to expect a functioning gall bladder.

A new or simple cholecystitis may sometimes be relieved by the so-called medical drainage. This is simply relaxing the muscle spasm and stimulating bile flow by concentrated doses of sulphate of magnesia. This treatment is also effective in assisting the passage of small stones through the common duct.

After stasis of the bile and gall bladder empties poorly, one must expect gallstones. Stones in the gall bladder that are small enough to engage in the cystic and common ducts cause the gallstone colic that is so characteristic that a "snapshot" diagnosis can often be made. The larger ones cause only general malaise and seldom come to operation excepting where pressure is caused on the cystic or common duct. Occasionally the gall bladder becomes so over-distended with stones or stones and detritus that it stops bile flow by pressure on the ducts and cutting off the blood supply, with consequent death of the parts.

Frequently the ampulla of the gall bladder at the cystic duct holds a stone that becomes imbedded and occludes the artery and cystic duct. This causes death of the gall bladder, and calls for operation or a general toxemia and peritonitis ensue.

Calculi may form in any or many ducts of the liver. This is probably due to a general dysfunction of the liver and slowing of the bile stream. The stones we find at operation are almost entirely either in the gall bladder or common duct or both. Lahe says that in 10 per cent of cases of gallstones, stones are in the common duct. These are not always palpable. He advises opening the duct and exploring with a probe if in doubt. Stones within the lumen of the common duct, or if found in an hepatic duct, should be taken out by incision. Then the incision may be closed by suture if easily accessible. I have no objection to leaving the incision open to drain if the approach is difficult. The most common place to find stones in the common duct is at the ampulla of Vater. These are usually difficult to dislodge and force through the sphincter. Stone in this position or anywhere in a duct must be removed or the operation fails to cure the pains and pathology. As you know, the ampulla and opening of the common duct lies behind the duodenum and is hard of approach, but the stone must be removed. If direct approach and incision seem too difficult, I do not advise approach through the duodenum. That is a difficult operation and is sure to cause infection.

B. Schiassi of Vienna is an advocate of conservation of the gall bladder and ducts in cases of stone when the damage is not great to the mucosa. In case of great difficulty in removing stone from the duct, and especially from the ampulla, ether may be injected to soften the cholesterol, thus emulsifying the stone and the bile pressure will carry it on. This little procedure is, I think, very much worth while. A case in point is that of a woman sixty years old with pancreatitis—emaciated, jaundiced, with obstipation and vomiting. Operation revealed a long narrow gall bladder, perfectly hard as though it contained a single concretion. This was pressing deep on the common duct and pancreas. I decided to save the remains of the gall bladder for a drain. It was very difficult to dig out the mass of dry stones and impossible to move the last bit in the

cystic duct. A rubber tube was put into the old sac. There was no pathology of stomach or duodenum. The head of pancreas was two and one-half inches in diameter. Wound was closed with wick drain. Ether was put in through the tube daily for three days. The wound healed and the gall bladder sloughed and came out intact. Bowels began moving spontaneously or by light laxative within a few days. This case would have recovered without ether, but on account of completely opening the ducts I am quite sure the ether cleared the way rapidly.

Aside from neoplasm, pancreatitis is almost wholly dependent upon stasis. Blocking of the pancreatic duct can occur from infection or external pressure. In any disturbance of liver function there is a corresponding pancreatic disturbance.

Acute jaundice is caused by complete or nearly complete closure of the common duct. This is never permanent unless caused by neoplastic or other complete occlusion of the common duct. But given a permanent jaundice or bronzing, a diagnosis of malignancy is usually justified. I know of no cause of a permanent occlusion without neoplasm excepting by severance or damage at operation. Unrelieved, this must prove fatal within a short time. One of the most characteristic diagnostic clinical signs is jaundice more or less pronounced and an intense itching. The suffering from the itching is continuous and uncontrollable. Every part of the body is affected. The urine becomes very dark, sometimes blood red, the stools clay color, and the skin colored anywhere from bright yellow to dark bronze. All this can be relieved if the obstruction can be relieved.

When the common duct has been obliterated one must provide a way back into the duodenum. I do not approve of or recommend opening the gall bladder into the stomach or duodenum. Still there may be cases where such a compromise is justifiable. Infection into the liver is almost certain.

When the duct is blocked the bile pressure causes the liver ducts to dilate. A large one or the dilated common duct can be found and used as the beginning of a new duct. This operation I had to do when there was very little literature on the subject. Several devices had been tried, but none had sufficient merit to survive. I think my first case antedated any reported case, but it is due to L. L. McArthur that this operation came into prominence. In his presidential address for the American College of Surgeons, he detailed a list of seven cases so operated. I have done this operation three times. The operation is as follows:

The exposure is in the usual way. In every case one must go through scar tissue, adhesions, and distorted organs. Once in and the anatomy identified, a good exposure of the duodenum must be made, then a search for the common or larger hepatic duct. A medium sized rubber catheter is then passed into the duodenum. This is done by the R. C. Coffee method to insure a suitable valve action, to prevent fluids, gases, etc., from infecting the duct and liver. This is not stitched to the gut for it is necessary to have nothing pulling. The free end of the catheter is then inserted into the duct and carried back as far as convenient. This is fastened, water tight, to the duct by chromic gut. The wound is then closed and a proper blood drain inserted. Bile will flow through this temporary drain and in time a permanent duct will have formed. The permanent duct remains patent and functioning solely for the reason that it has completely epithelialized and is not scar tissue. If it were just scar tissue, it would be obliterated in time.

The only original thing I claim, or Doctor McArthur claimed for this operation, was using an entire length catheter, fastened only to the duct and hanging down into the duodenum. This then drags and will finally loosen and pass the bowel. Others had used short pieces of tube, but results do not justify it. The short tube may not pass and if it does not it remains as a foreign body and an irritant.

Finally, I wish to emphasize the importance of correct diagnosis in apparently gastric cases. Do not be satisfied with a diagnosis of indigestion, but look for and find the cause if possible. Most of the early cases are amenable to treatment, but allowed to go on they become surgical.

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Colorado Hospitals JANUARY 1936

Editorial

THE VALUE OF A HOSPITAL LIBRARY FOR THE PATIENTS

LILLIAN B. ELLIS
DENVER

The success of a hospital depends on the service it gives its patients. I remember reading an article in the Readers' Digest some years ago in which the author bitterly reprimanded the hospitals for not understanding the patients' need for mental stimulus. It would be most convenient if one might bring his fractured leg or hip to the hospital for repair and call for it after it was again made whole. If this were possible the subject of this paper would not be in order. We all know the importance of a favorable environment and an occupied mind for ill persons, particularly those patients suffering from pain or forced to lie quietly for extended periods. The effort to fight mental depression and to keep it from that easy change to mental disorder is certainly not the least important function of the hospital.

An historical survey of the existence of Hospital Libraries is easily made since there are still comparatively few of them. McLean Hospital in Waverly, Massachusetts, a private hospital devoted to the treatment of mental cases, has the distinction of organizing the first hospital library early in 1904. However, in the same year a similar experiment was begun at the Massachusetts General Hospital in Boston. Both of these institutions employed full time librarians demanding that they have some medical training as well as a knowledge of books. In 1910 the state institutions of Iowa realized the importance of keeping their inmates mentally occupied, so a group system was organized providing library service at all institutions, including hospitals. This provided a librarian to visit all institutions at stated intervals and during her absence the work was carried on by volunteers trained by the librarian.

Apart from these outstanding pioneers, little was accomplished until after the war. Hospital service by the American Library Association had demonstrated to doctors, nurses, and laity alike the important part books can play in hastening the recovery of hospital patients. The United States Veterans' Bureau has continued this service in all government hospitals, thus exercising by example some influence over others. Little has been done in our own city and it is chiefly for that reason that justifies this paper.

Just a year has passed since we made our first trip with books to the patients of Colorado General Hospital. At first we were rather dubious as to the outcome, but results have shown that the experiment was successful. As you might well suppose many of our patients belong to the class of non-readers. In order to arouse the interest of those a bit of educational work has to be done. Usually the best way to induce a person to read a book is to tell him how much you have enjoyed it yourself or how much other patients enjoyed it. Again it has been possible to interest the patient by reading bits from or telling some interesting points of the story.

The first few weeks of ward rounds were somewhat discouraging, but before long such expressions as "Oh, here comes the book lady, now we will have something to do," were heard on every side. For two weeks this summer the service was discontinued and during that time patients fussed and nurses complained that it was a most difficult task to keep the patients contented.

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To insure the proper fitting of supports, to acquaint the profession with Camp models and to keep both physicians and fitters apprised of new garments, it has been necessary to establish the Camp Professional Support Service. With the development of this Service and the excellence of Camp Supports has been won the approval of such organizations as the American Medical Association and the American College of Surgeons.

In the announcements which are to be featured this year, we propose to explain in detail the various phases of the Camp Professional Support Service . . . how each factor in the Service helps to solve this matter of supports—to provide garments scientifically constructed, reasonably priced and properly fitted to the individual.

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Speaking of black moods reminds me of an asthma patient who left the hospital just a short time ago. Early this past summer she was reported as a probable suicide case brought about entirely through discouragement over her physical condition. When the case was called to our attention it was not known whether or not she would respond to reading, but it was suggested that especial attention be given to her. After about two weeks it was found that as long as she had something to read all was well. Another example is one of an inoperable cancer case. The patient has been told that she has three months at the most to live. Imagine how you would feel if given such news. Well, that was just her reaction. The interne in charge of the case told us about her and asked that we try to get her interested in reading. This was done by asking if there was some particular book she had always wanted to read. She asked for Silver Dollar and since starting it seems to have an entirely different attitude.

The results of our first year are best shown by a few statistics. During the year 4,868 books and magazines were loaned to the patients, or an average of more than 405 per month. The average monthly census for the year was 129.2 which allows more than 3 books per patient. To show the Library's growth in popularity let us compare September, 1933, with September, 1934. After just one year the circulation has increased from 85 to 593 or about seven times as much as a year ago. Certainly these figures show appreciation on the part of the patients and growth in the Library's popularity. After a year of what seemed gratifying success we launched the same service in Colorado Psy-

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chopathic Hospital. While less than two months have passed since this work was started we have reason to believe that it has already proved its worth.

Many pathetic cases have been seen and much persuasion is necessary to stimulate interest but usually something is accomplished. An interesting case is that of a little old lady, completely broken mentally from the constant harboring of the idea that since she is a widow and has no home of her own she has become a nuisance to her married sons. The first time we saw her she said very definitely that she didn't want to read and wouldn't know what to read because she was just too sad. However, we left a few weekly pictorials with her. The next visit she asked for some picture magazines and now is quite interested in general reading.

Dr. Ebaugh reports that when making rounds he now finds most of the convalescent patients busily reading either books or magazines while before they usually were aimlessly walking about, playing cards, or merely sitting and brooding over their own problems. The two wards which we visit number about twenty-five patients each. To date six visits have been made with a total circulation of 308 books and magazines.

Those of you connected with private hospitals are no doubt thinking that library service is most unnecessary in a hospital catering to those of moderate means and the well-to-do. This idea has been proved to be entirely erroneous. It is true that this group of patients have more friends and relatives interested in them and ready to satisfy their every want. However, if you have ever been confined in a hospital you well know that friends and even families do not always sense your mental condition. The mind as well as the body is sick and therefore needs light enjoyable stimulation. The story is told of a College Professor whose wife brought him the Book of the Month as soon as it arrived as he had been in the habit of reading each book as it was received. He thanked his wife very graciously but the book remained on his table untouched. When the librarian visited him he asked for a book by Zane Grey. It was

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found at Massachusetts General that the average percentage of patients served per visit in Baker Memorial, the hospital for people of moderate means, was 75.6 as against 53.9 in the General Hospital. For that reason let us not forget the patient of means simply because we feel that he can buy his own happiness or have it showered on him by his friends and relatives.

While reading for the sick is the primary purpose of hospital libraries, the library can be one of the most important factors in the stimulation of the morale of the entire hospital personnel. It is true that those who care for the sick need the relaxation that books can give. Then, too, a nurse can be more interesting and have a broader background thereby serving the patient better if she spends some of her leisure time in reading. Indirectly she can assist the librarian greatly by arousing the patients' interest and desire to read. All privileges of the library should be extended to everyone, from the laundry people to the director. Our staff of doctors, nurses, technicians and orderlies have made good use of their privileges during the past year, shown by the circulation figures of 987 books.

Perhaps you think that all this sounds very promising, but feel that added financial obligations at the present are either impossible or not practical. All that is true and a question to which we give serious thought. However, I may say that the undertaking has cost us very little. At present we have 975 books on our shelves and of that number all but fifty were received as gifts. Those fifty which we purchased were paid for by fines collected from the hospital staff. In addition we received a small sum from our Faculty Women's Club with which we subscribed to some three or four of the most popular magazines. The salary of the librarian has been sponsored by the Medical Library as she devotes part of her time to assisting in the library. Since all hospitals approved for interneship are finding it necessary to maintain a medical library for the use of their staffs it would seem that by combining the two, more efficient service could

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be offered in the medical division at little extra cost to the institution.

Still another argument in favor of hospital libraries is that of valuable publicity to the hospital. Probably you smile, but listen to what the librarian of a private hospital in Philadelphia has to say, "I am firmly convinced that a library, aside from its therapeutic, moral, and diversional aspects, is an important publicity agent. I have had patients say to me frequently, when I appeared with my book wagon filled with colored books, 'Oh, here comes that book wagon I have heard so much about. A friend of mine was here and enjoyed your service so much that I chose this hospital when my doctor gave me a choice.'" Of course such statements could not be expected immediately, but certainly this phase bears consideration.

Much more could be said on the question of the value of hospital libraries, but time does not permit. However, let us remember just this, we have many therapy departments within our hospital walls to bring healing to the body; yet have we considered as seriously as we should that such a department as the patients' library is a most valuable source of therapy for the mind? Would it not be more human to change the adage "Live and let live," to "Live and help to live?"

Brodie (Science, June 29, 1934, p. 594) has demonstrated that active poliomyelitis virus inactivated with formalin is antigenic. This may lead to an important new therapy for poliomyelitis.

Pain is the prayer of a nerve for healthy blood.—Romberg.

COMMERCIAL COMMENT

PAUL WEISS, OPTICIAN

As a youngster, Paul Weiss was very nearsighted. Frequently he came home from a ball game with his features somewhat mutilated because of his inability to see the ball before it struck him in the face. One day, while rummaging through some of his father's personal effects, he tried a pair of his father's old spectacles. The effect was the same as removing a veil from before his eyes. He immediately appropriated these



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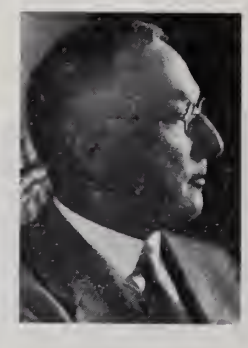
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glasses and wore them for years, until he had an opportunity to have his eyes refracted and fitted properly. He also resolved to become an optician.



Paul Weiss

He emigrated to America, arrived in Chicago, and entered the employ of his uncle, Dr. Louis Boerlin. In those years machinery was very crude and it was necessary for the lens grinder to supply his own foot power while using both hands for grinding. After six years Mr. Weiss left his uncle's employ and arrived in Denver in the spring of 1890. A few days after his arrival in Denver he obtained employment with Mr. A. Ward, Optician, located between 16th and 17th on Lawrence Street.

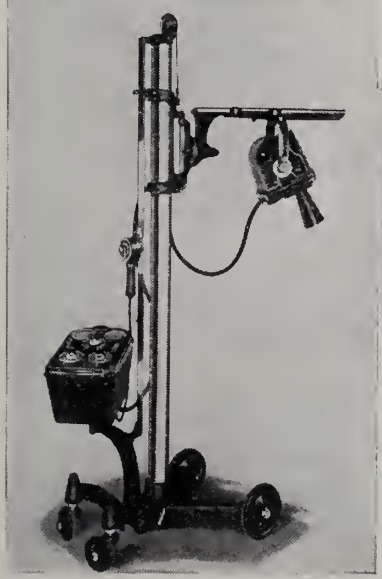
The depression of 1893 was temporarily disastrous for Mr. Weiss, because Mr. Ward decided to slash his wages to $15.00 per week. Mr. Weiss returned to Chicago, entering the employ of Manassee & Co., Chicago's largest optician at that time. While there Mr. Weiss was able to arrange to obtain the necessary materials and supplies which would enable him to open his own store.

Within four months he returned to Denver, and on June 10, 1894, after arranging with F. W. Gromm, Denver's pioneer trunk manufacturer, for half of the trunk store located at 1606 Curtis Street, Mr. Weiss sold his piano and furniture to pay the first month's rent and expenses. Shortly thereafter he obtained the agency for Spencer Microscopes and Zeiss Optical Goods. Having developed a great interest in microscopes, Mr. Weiss was instrumental in organizing the Microscopist Society. Some pioneer Denver physicians belonged to this society. Within a few years Mr. Weiss became interested in surveying instruments, having designed and patented a prismatic telescope.

In 1915 Mr. Weiss was approached by representatives of the British Government with the request that he equip a factory to manufacture prism binoculars for use by the British in the World War. By 1916 this factory, organized as the Weiss Instrument Company, was working night and day manufacturing binoculars and regular weekly shipments were being made to London. When the United States entered the World War our Government contracted with the Weiss Instrument Company for a large quantity of prism binoculars, which were manufactured and delivered promptly.

Among Mr. Weiss' first customers and acquaintances were many of the pioneer oculists and physicians of Colorado, and he acknowledges with gratitude their encouragement and support, which contributed in no small measure to his early success. He appreciates the genuine friendship of the members of the Colorado State Medical Society, with many of whom he is personally acquainted. Healthy and vigorous in his 71st year, he is active in his business, lends his support to all local civic and community enterprises, and thoroughly enjoys hunting and fishing in the mountains of Colorado.

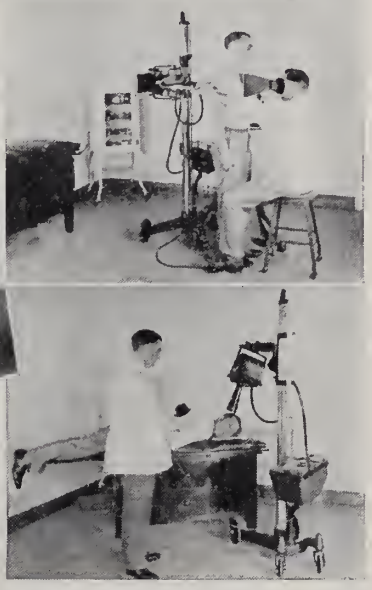
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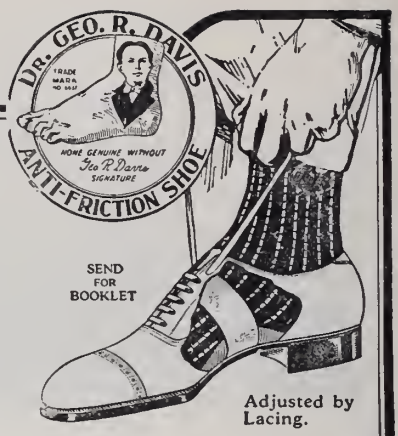
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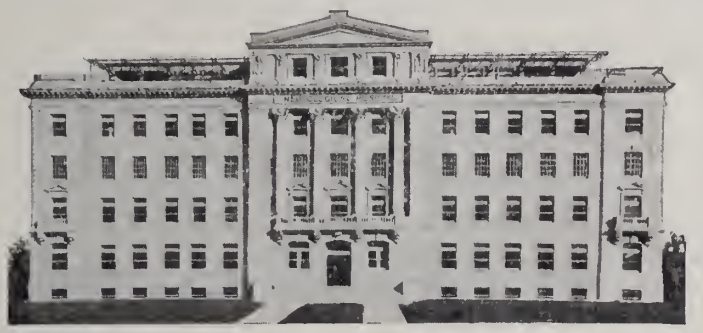
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CANNED FOODS AND THE PUBLIC HEALTH

I. The "Ptomaines"

• Many requests received for further information on canned foods have inquired as to some of the public health aspects of this class of foods. We appreciate the frank interest of our readers in this subject about which so much misinformation exists. We are glad, therefore, to devote this discussion, as well as subsequent ones, to the most popular of the lay misconceptions concerning the wholesomeness of commercially canned foods.

Some laymen hold the belief that canned foods, in some mysterious manner, develop "deadly ptomaines" within the can and hence the consumer of such foods stands in danger of "ptomaine poisoning". In the light of modern knowledge, this belief is ludicrous; it probably had its origin in the old "ptomaine theory" of food poisoning, now so thoroughly discredited by modern medical authorities (1).

Between the years 1870 and 1880, a large number of substances were obtained from protein material which had undergone bacterial putrefaction. These substances were aptly called "ptomaines", from the Greek "ptoma" or "dead body". Toxicologists of the day ascribed marked toxic properties to the new found ptomaines, chiefly by injection studies rather than by feeding tests.

The science of bacteriology was then in its infancy—the true causes of food infection or intoxications were not known. Consequently, the discovery of ptomaines, with their alleged toxic properties, permitted the convenient diagnosis of "ptomaine poisoning" for all illnesses following the ingestion of foods. Today, we know that such illnesses usually result from the ingestion of food which had been infected by certain bacterial groups, and not from protein degeneration products such as ptomaines (2, 3).

One authority has stated that "ptomaine poisoning is a good term to forget" (4).

To this we might add that it would also be well to discard the old, unfounded belief that foods in the tin can develop substances hazardous to health.

Canned foods are merely selected foods which, after proper preparation, are sealed in hermetic tin containers and given a heat process calculated to destroy pathogenic and spoilage organisms which might be present on the raw foodstuff. The hermetic seal prevents future infection of the food by such organisms and insures its preservation and wholesomeness.

Such are the simple facts. The cooperation of the medical profession is earnestly solicited in combating the ludicrous, yet widespread, lay prejudice against commercially canned foods.

AMERICAN CAN COMPANY

230 Park Avenue, New York City

(1) Journal American Medical Ass'n, 90,459 and 1573 (1928).

(2) Food-Borne Infections and Intoxications, F. W. Tanner, Twin City Pub. Co., Champaign, Ill., 1933.

(3) Food Poisoning and Food-Borne Infections, E. O. Jordan, University of Chicago Press, 2nd Ed., 1930.

(4) Preventive Medicine and Hygiene, M. J. Rosenau, Appleton-Century, New York, 6th Ed. 1927, p. 668.

This is the ninth in a series of monthly articles, which will summarize, for your convenience, the conclusions about canned foods which authorities in nutritional research have reached. We want to make this series valuable to you, and so we ask your help. Will you tell us on a post card addressed to the American Can Company, New York, N. Y., what phases of canned foods knowledge are of greatest interest to you? Your suggestions will determine the subject matter of future articles.



The Seal of Acceptance denotes that the statements in this advertisement are acceptable to the Committee on Foods of the American Medical Association.

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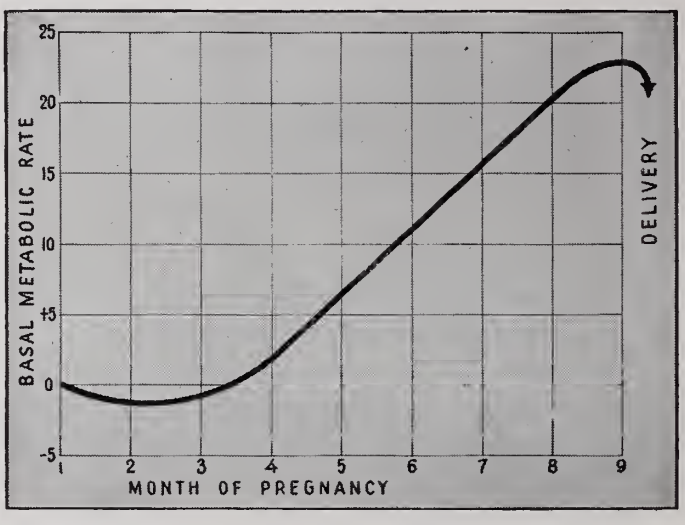
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A Poor Scholar . . .
because of a Poor Breakfast



MANY a child is scolded for dullness when he should be treated for undernourishment. In hundreds of homes a "continental" breakfast of a roll and coffee is the rule. If, day after day, a child breaks the night's fast of twelve hours on this scant fare, small wonder that he is listless, nervous, or stupid at school.

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Colorado Medicine FEBRUARY 1936

Editorial

Important Clinical Sessions This Spring

REAL doctors must never cease studying. Recognition of this fact formed the cornerstone of the first medical societies. Today, postgraduate education and re-education of physicians is still the primary reason for the existence of most worth-while medical organizations. Our own State Society, ever striving to improve its effectiveness, has for the last four years sponsored special clinical sessions in addition to the big annual meeting.

Those who attended the Midwinter Postgraduate Clinics in Denver late last month appreciate their worth, which is not confined solely to education, either, for the fraternalism developed plays its part, too. Those who unfortunately had to miss the Midwinter Session need not fear that they must forego such meetings for another year.

Two additional clinical sessions are ready for announcement, both to take place this spring. The Eastern Colorado Postgraduate Clinics will be conducted March 30 and 31 in Cheyenne Wells. The Spring Postgraduate Clinics, in Pueblo, follow a month later, tentative dates being set as April 29, 30, and May 1. This will be the third annual for Pueblo, and the second for Cheyenne Wells. Both local and state committees are already at work on these events, promising more attractive sessions than in previous years.

We have not yet heard from our Western Slope colleagues, but efforts are being put forth to arrange a mid-summer session in Grand Junction.

Committees alone cannot make these clinical sessions successes. Helpful support is needed from the whole memberhip. Let's get behind these hard working men who are doing a mighty important job.

"Such as Hang on Hebe's Cheek"

IN these days of medico-economics we are becoming used to statistics, but physicians seeing for the first time the figures on the business of cosmetics are stunned. How many of us realize that this is one business which did not decrease during the depression and that its volume has increased each year. The United States Department of Commerce estimated that for the year 1929 in this country the retail sale of cosmetics was $375,000,000. For the same period for personal services through barber shops and beauty parlors there was expended in the neighborhood of $400,000,000. We see on every side evidences of this ever-growing industry advertised on sign boards, street car cards, periodicals, newspapers and the radio; this latter medium, more recent in development than the others, threatens to outgrow all of them in volume.

How do we feel about cosmetics? Usually our attitude is one of exasperation. We are unable, even if we were foolish enough to try, to prevent our wives and daughters from using them, and must often stand impatiently holding an open door, while milady gives each cheek a final pat with powder puff before the front hall mirror. The grotesque, dead pan, mask-like caricature of a face on the overly made up woman is repulsive to us, but we expect our own women to use these artful aids and must admit that when it is done skillfully it enhances their attractiveness.

We see cases in our offices of unfortunate results in their injudicious use, but for each of these there are dozens of women who voluntarily change brands because the "last one irritated a little." Should we attempt to ban the use of all hair dyes because some idiosyncratic person is poisoned? We might try to prohibit the sale of straw-

berries for the same reason. Because a careless hairdresser causes a scalp burn should we discourage our patients from having permanents? Could King Canute hold back the ocean? We would have just as much success rolling back this half billion dollar cosmetic business! We might much better accept the fact that women since the days of the Pharaohs have used cosmetics and will probably continue to do so.

We, as physicians, would do well to learn some things about cosmetics. We should know that it is sometimes possible to substitute a non-allergic powder for one that irritates. We could find out why some of the ingredients of one cream are harmful and others not. We should be able to advise a gray-haired business woman that a vegetable henna might be less dangerous than a metallic dye. We could also inform ourselves about soaps and preach an intelligent if homely doctrine of cleanliness.

O. S. P.

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Adequate Dosage Of Iron

THE value of iron in the treatment of anemias has been known since the earliest periods of recorded history. Its use in the form of rust dissolved in wine and in other forms has been recorded since several thousand years before the Christian era. During the past thirty years we have become familiar with the fundamental principles of iron metabolism in the body. We have learned that the liver is the storehouse for all forms of iron and that about 70 per cent occurs as blood hemoglobin. The body probably requires only ten milligrams of iron per day, whereas the average adult takes in about fifteen milligrams. Most of it is absorbed by the duodenum and stored in the liver for future use. This iron, and that from broken down erythrocytes, is used in the hemoglobinization of young red blood cells. Anemia results when the intake of iron is reduced or when the metabolism of the available supply is impaired. Recent years have brought forth undeniable evidence varifying the catalytic potentialities of copper in the iron assimilation. Iron has been shown to serve best therapeutically when the hemoglobin loss exceeds the destruction of red blood cells and there is a low color index—a secondary anemia. In such cases the dietary source of iron and copper is usually insufficient for clinical improvement. Consider that the total amount of iron in a human body may not be greater than the weight of a five-cent piece, but it is essential to life. Suppose the amount is three and five-tenths grams and that two and five-tenths grams is in the form of hemoglobin. It has been demonstrated conclusively that a very large daily dose must be given in order that as much as one-fourth grain may be assimilated.

As clinicians we must therefore bear in mind the content of metallic iron in the preparations used, granting in advance that iron is absorbed with difficulty from the gastrointestinal tract. It is immediately obvious that most of the ordinary doses of iron which we prescribe are wholly inadequate. Reduced iron, containing 90 per cent iron, necessitates a daily optimum dose of one and five-tenths grams. The popular iron ammonium citrate represents not more than 17 per cent of iron and necessitates a daily dose of six grams. Ferrous carbonate, in the form of the usual Blaud's pills, requires about seventeen pills as an optimum dose. Hydrochloric acid undoubtedly favors iron absorption, and is indicated where hypochlorhydria exists. It is obvious that a physician who has decided that iron is indicated in any given case must know the iron content of the preparation and must direct the use of enough of it to equal approximately one to one and five-tenths grams daily of metallic iron—if result are to be consistent with our warranted anticipations.

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Pleurodynia

READERS will recall an article on epidemic pleurodynia in the last issue of this journal. Many physicians confess they have never seen, or at least have never recognized, such a case in private or institutional practice. A notable fact is that the condition appears in epidemic proportions in cer-

tain parts of the country. Outbreaks have been reported in several Atlantic coast states and one in Tennessee. The January issue of the Illinois Medical Journal presents a report of seventy-two cases seen in that state. The author estimates that at least 500 persons were afflicted in one county during July and August of 1934. He had searched the literature and failed to find report of any epidemics west of the Appalachians. Thanks to Dr. Naugle of Sterling, Colorado Medicine has made a record of the occurrence of pleurodynia in the West in at least near epidemic proportions.

Even typical cases may be overlooked or misdiagnosed. Some have been subjected to unnecessary surgical procedure. Others simulate grave cardiac disorders and cause alarm. Usually there is a sudden onset of acute pain about the lower thorax or epigastrium on one or both sides; it may spread lower on the abdomen. There is obvious effort to minimize expansion; there may be headache, backache, or pain across the shoulders; fever may be as high as 104 degrees; nausea and vomiting occur in some of the patients. The paroxysm may subside in a day, only to be followed by a second or even a third within a period of three to seven days. Physical and laboratory examination rarely reveals any striking deviation from normal. Though individuals of all ages are attacked, it is most common in children and young adults.

The etiology is unknown. Since it usually occurs during mosquito season, and many of its victims report having been bitten, it may be thus transmitted, as is dengue.

It is obviously true that we never diagnose a disease of which we don't think. The most astute clinician is apt to be the man with the fullest knowledge and the longest list of possibilities in its differential diagnosis. If pleurodynia isn't on your list, that list is shy at least one item in certain confusing clinical pictures.

CORRESPONDENCE

Dinitrophenol

THE dangers of dinitrophenol are emphasized in the following communication sent to the editor. We are indebted to the ophthalmologists for this admonition and always appreciate correspondence of quality—and which contains no uncertain terms:

The undersigned, acting as a special committee, were instructed on January 18, 1936, by the Colorado Ophthalmological Society to ask you to call special attention to the very great danger involved in the use of dinitrophenol, a drug which has been widely used and has been recommended by some physicians for relief from obesity.

Within the past year a large number of cases have been reported (especially in the Journal of the American Medical Association) in which the use of this drug was followed by blindness from cataract. In the opinion of the Colorado Ophthalmological Society, the danger of blindness from this drug has been so conclusively demonstrated that it is absolutely improper for any physician to recommend dinitrophenol or any preparation containing it. In view of the facts which have been reported, it would even seem that any physician now making such a recommendation would lay himself open to a successful suit for malpractice.

The Colorado Ophthalmological Society, through the undersigned or any other of its members, would welcome information as to any pharmaceutical company which still recommends the use of dinitrophenol.

Sincerely yours,

WM. M. BANE,
WM. H. CRISP.

Death Rates in 1934

The U. S. Bureau of the Census announces that there were 1,396,903 deaths in the United States in 1934, a mortality rate of 11 per thousand estimated population, an increase over the rate for 1933, which was 10.7. The bureau has issued a comparative summary of mortality statistics for the last three years, giving mortality rates for all causes of death. The tuberculosis death rate fell from 62.9 per hundred thousand of population in 1932 to 56.6 in 1934, while the rate for cancer and other malignant tumors rose from 102.2 to 106.3 in the two years.—Journal of the A. M. A.

SYMPOSIUM ON CHRONIC ARTHRITIS

+ + +

CLASSIFICATION AND ETIOLOGY OF CHRONIC ARTHRITIS*

THAD P. SEARS, M.D.
DENVER

Chronic arthritis has ever given a perennial challenge to the Profession of Medicine. It is not an important cause of death. It does not excite the zeal of Public Health crusades and yet, because of its wide distribution, disabling morbidity, and tenacious chronicity it ranks near the top of the list as a cause of economic distress and human suffering.

That this characterization is justified by the facts may be quickly seen in a brief review of its incidence. It produces more pensionable invalidism than any disease save the degenerative type of cardio-vascular sclerosis. Among 16,000,000 persons carrying health insurance in England there are annually 400,000 cases of rheumatism. In the state of Massachusetts 12 per cent of the population are suffering from rheumatic disease. The 140,000 persons so afflicted is in contrast to 84,000 cases of heart disease, 16,000 cases of tuberculosis, and 11,000 cases of cancer. The Metropolitan Life Insurance Company in a study of 600,000 persons found a rheumatic incidence of 54,000. In this same group tuberculosis was only half, heart disease two-fifths, and cancer a tenth as common. It is estimated that in the United States in the year 1932 rheumatic disease caused a loss of $200,000,000 to those so disabled.

Chronic arthritis also intrigues our interest in the great antiquity of its lineal history. It is the oldest recorded disease of the animal kingdom. This record, written in the fossilized remains of animal life, discloses arthritic changes typical of the disease as it is seen today in the mosasaurs of a hundred million years ago, of the dinosaurs and saber-toothed tigers of a later period, of the ape-man two million years in the past, of the Java men, the Neolithic men, the ancient Egyptians and the pre-Columbian Indians. In our own epoch every age of life from childhood to senility is possessed of its own particular arthritic problem.

The antiquity of the disease further provides a stimulus for its study. The origin of Medicine might well be sought for in the quest that ancient man made for relief from his arthritic pain and yet, despite long search, the treatment of arthritis stands as one of the signal failures of Medicine. A disease so constantly with humanity has bred a prognostic pessimism toward its presence. Within the last ten years great advances have been made in the study of arthritis and it can now be said that pessimism is wholly unjustified. Authoritative opinion permits the modern physician to state that with proper diagnostic and therapeutic approach 70 or 80 per cent of arthritic cases can be rendered quiescent.

R. B. Osgood in a recent discussion of arthritis envisioned it as "the most generally prevalent, the most inadequately treated, and the most controllable of all chronic disease." With this thought in mind members of this symposium hope to present a clear-cut exposition of the present day concept of the classification, etiology, pathology, clinical syndromes, and treatment of chronic arthritis. This is by way of a general review of the field without criticism of any especial theory. The presentation particularly emphasizes the belief that arthritis is a generalized disease with local manifestations in the joints, and further that these manifestations are attended by a variable number of physiologic disturbances aside from the articular lesions. The symposium also hopes to throw the two great types of arthritis into sharp contrast. This contrast is so marked a one in every repect that its elucidation renders the average case diagnostic at a glance. The first step in this construction concerns itself with classification.

*Presented before the Sixty-fifth Annual Session of the Colorado State Medical Society at Estes Park, September 7, 1935, as part of the Symposium on Chronic Arthritis.

Classification

Classification in chronic arthritis is immediately essential to clinical concepts and treatment. Many joint lesions are encountered in Medicine. These include (1) the occupational and recreational traumatisms; the (2) specific joint inflammations of known systemic diseases as of typhoid, pneumonia, sepsis, gonorrhea, tuberculosis, syphilis; (3) acute rheumatic fever; the (4) metabolic group—including gout, hemophilia, and the arthralgia of allergic states; (5) the neoplasms; and (6) a miscellaneous group which embraces the joint signs of hysteria, fatigue states, myalgia, etc. But none of these entities is predicated in the term "chronic arthritis."

The term "chronic arthritis" refers to two types of non-specific idiopathic and chronic joint inflammation, each particularly contrastive to the other, and classed under two general headings as atrophic arthritis and hypertrophic arthritis. These two types, though bearing some clinical similarity, are in their uncomplicated expression almost the exact antithesis. The contrasts in the two types will be noted in the papers that follow.

The multiplicity of terms which have been used to designate the two groups will not be confusing if it is remarked that atrophic arthritis is also denominated as infectious arthritis, rheumatoid arthritis, proliferative arthritis, arthritis deformans, and villus arthritis. Hypertrophic arthritis is synonymously referred to as osteo-arthritis. non-infectious arthritis, degenerative arthritis, and arthritis of the menopause. The preferred terms "atrophic" and "hypertrophic" are used for the reason that atrophy in the first, and hypertrophy in the second, is the end product of each respective lesion.

Etiology

In the classification of arthritis there is agreement. We come now to etiology—about which there is no agreement—and out of which has grown the assertion that chronic arthritis is a syndrome of many faces, embracing many factors, and associated with a number of physiologic disturbances.

Most of the debate on the etiology of arthritis has concerned itself with the atrophic type. The discussion may therefore be simplified by disposing of the hypertrophic type at once. This type is now universally recognized as an articular degeneration, coincident with age, sometimes related to overweight, endocrinism and infection, but always primarily a reaction of the joint to the trauma of occupation and the wear and tear of life. Age and trauma are taken as a unit in wearing out the joints and it seems evident that in the hypertrophic type the response of the articular tissue has to do with its age as well as with the sort of injury it sustains.

In the etiology of the atrophic type many associated physiologic disturbances are seen. Whether these are a cause or any effect of the lesion is not always clear. It has been shown that something resembling vaso-constriction is active in the peripheral blood capillaries. Direct microscopic observation has disclosed not only a reduction of the number but a retarded velocity of blood flow through those capillaries which remain open. Substantiating evidence of this fact is seen in the low red blood cell count of the first drop of blood obtained by skin puncture, and the demonstration by use of the thermopile that the arthritic has a lower than normal skin temperature. There is also a "lag" in reaching a constant thermic level when external temperatures are suddenly elevated or lowered. The metabolic result of this reduction in peripheral blood flow can be visualized in terms of its effect on oxidative change. An oxygen deficit in the capillary bed will cause a slow utilization of blood sugar, a consequent low sugar tolerance, a decrease of the basal metabolic rate, an increased oxygen saturation of the blood, and—as theorized by some—a local tissue acidosis with mobilization of the bone calcium and the decalcification characteristic of atrophic arthritis.

The belief among laymen that rheumatic patients are able to predict weather conditions is given credence by these observations of blood flow. Barometric pressure on the skin surfaces will affect peripheral blood vessels, and Rowntree has shown that arthritic patients do in fact experience more pain when the barometer is falling.

The relationship of arthritis to diet and

gastro-intestinal function has long held interest in the medical mind. The belief that meat foods are contraindicated is firmly established among laymen. There is no experimental evidence to support this belief. Nitrogen retention is not seen in arthritis and the uric acid metabolism is normal. There is evidence however that, although the average arthritis chooses a lower caloric intake than the average, his greatest error is in selecting a diet which is poor in mineral salts and vitamines. A theory not adhered to by all workers advances the belief that a diet high in carbohydrates and low in protein leads to an elongation of the intestinal tube with resultant stasis and angulation. They believe that a high carbohydrate ration imposes an additional burden on a mechanism already subject to a low sugar tolerance and that the low protein intake fails to take advantage of the specific dynamic action of the proteins in stimulating the low basal metabolism.

Many other factors are evidently etiologic components of the arthritic syndrome. Hereditary predisposition expressed in anatomic configuration and efficiency of physiologic function must have bearing upon the problem of arthritis. Improper mechanics in the physical part of respiration might well result in poor aeration of the blood and further interference with oxidative changes already compromised by the peripheral vaso-constriction. Poor body posture, anemic states, endocrine deficiencies—all of these may be reflected in articular disease. Not to be denied in this field, even the neurologist is introducing psychic factors into the etiology.

The harassed question of the microbic etiology of atrophic arthritis has been left to the last. Evidence of infection is seen in the elevated sedimentation rates and the variability of these rates with exacerbations in the patient. The Schilling counts shift to the left. The blood cholesterol tends to be low. A leucocytosis may be found and the fever, loss of weight, and anemia are characteristic signs of infection.

Many cultural and agglutination reactions are cited as proof of the infective nature of the lesion. Cecil has reported blood cultures positive for streptococcus in 60 per cent of cases. He found joint cultures positive in 67 per cent and recovered the organism from rabbits after he had produced arthritis in these animals by inoculation with his typical strain. Klugh obtained positive blood cultures in 72 per cent of cases; Gray in 58 per cent; Wetherby in 50 per cent. Small obtained an organism which he believed to be specific. Burbank inoculated rabbits with the streptococcus and later amputated test joints under sterile conditions. Incubation of these entire joints showed the streptococcus in the tissues of every case.

Serum agglutinations have yielded an even higher percentage of positive results. Wainright obtained agglutinations in 90 per cent of cases, and his dermal tests for allergic sensitivity to various streptococcic strains have given positives in a large number of instances. Nicholls and Stainsby have reported similar high positives in agglutination.

These results are stimulating but difficult to harmonize with the reports of many other workers. Litchman obtained growth in blood cultures in only 4 per cent of cases; Dawson in 3 per cent; Nye in none and Wainright in none. Blair found positives in 25 per cent of fifty-seven cases of arthritis, but in 175 non-arthritic controls his positive percentage was almost as high.

A most perplexing part of the doctrine of focal infection is the determination of the focus. Focal infection is very much more common than arthritis. It is in fact almost universal. And even if it agreed that the joint pathology is a reaction to infection, the manner of its expression remains in doubt. Is the infection actually in the joint; is the articular reaction due to the irritation of a toxin elaborated at a distant focal point; or is the joint manifestation a local allergic reaction to a bacterial protein growing at a remote source?

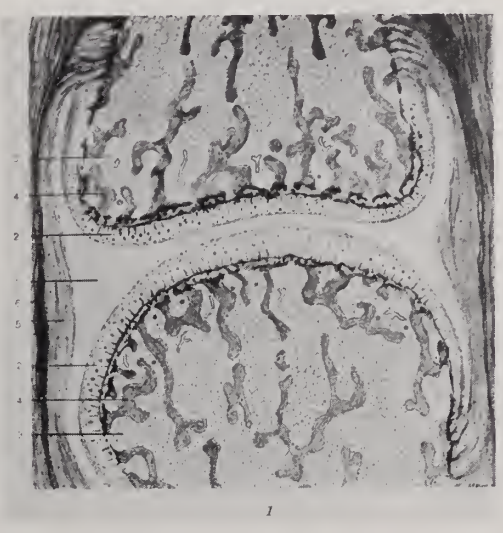
We may conclude that infection has not been proved to be the sole cause of arthritis and, until it has, the factors of heredity, age, sex, diet, gastro-intestinal function, peripheral vascularity, metabolic changes, postural defects, body mechanics, climatic conditions, and nervous state must be added.

PATHOLOGY AND SYMPTOMATOLOGY OF CHRONIC ARTHRITIS*

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The subject of chronic arthritis has been introduced, its nomenclature defined and limited, and its etiological factors evaluated. The next logical step, then, is to attempt to inquire into the nature of this disabling malady and try to give practical meaning to its accepted classification. The source books for the subsequent conclusions in pathology are the contributions of Nichols and Richardson[1] and of Allison and Ghormley[2]. The concept of syndromes adheres closely to the recent publications of the American Committee for the Control of Rheumatism[3] and to that of its subcommittee composed of Doctors Hench, Bauer, Fletcher, Ghrist, Hall and White[4].

This committee has established a classification which has received general acceptance. All nonspecific chronic arthritis falls either into the atrophic or hypertrophic form. While it must be conceded that there is some merit to the contention of those (Knaggs[5], Wilcox[6], Clawson and Weatherby[7]) who regard each type as a different tissue response to the same etiological agent or agents, yet the nature and sequence of events in the joint lesions of typical cases are so distinctive and the two syndromes are so characteristic that for practical purposes they must be considered as absolutely different diseases. Any effective treatment, other than symptomatic, waits upon a clear understanding of basic clinical, anatomical and pathological characteristics of these two distinct disease entities involving joint structures. For example, in cases of the atrophic form, adequate and early recognition of type is of first importance, in order that appropriate treatment may, if possible, prevent fibrous or bony union, delay its onset or at least anticipate this unhappy outcome by placing the joint in a position of maximum functional usefulness. Therefore, the main emphasis of this part of our symposium is to insist that there are two distinct types of chronic arthritis and to attempt to point out the basic nature of their differences.



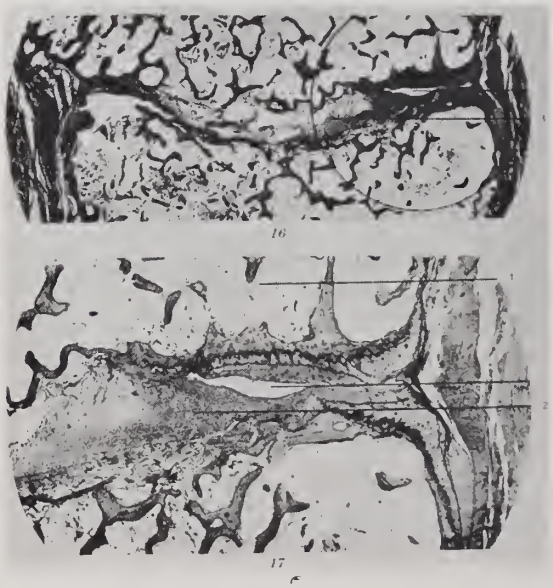
Cut 1. (Nichols and Richardson) Normal joint structures.

First let us review the histology and anatomy of a normal joint. Here is shown a drawing of a joint cavity, articular cartilage, fat marrow, trabeculae, synovial membrane, and perichondrium. In case of atrophic arthritis the primary lesion is in the synovial membrane. It is a proliferating lesion piling cell upon cell. If unarrested, invasion of the joint cavity takes place by extensive pannus formation. The cartilage is "smothered," absorbed, and replaced by fibrous tissue growing out from the synovial membrane. Frequently there is also an associated proliferation of the connective tissue of the bone marrow, giving rise to an invasive granulation tissue which attacks and penetrates the joint cartilage from its base. This may unite with the synovial pannus and become a part of the fibrous tissue which replaces cartilage and forms a fibrous union between the two denuded bones. There may be, and frequently is, a proliferation of the

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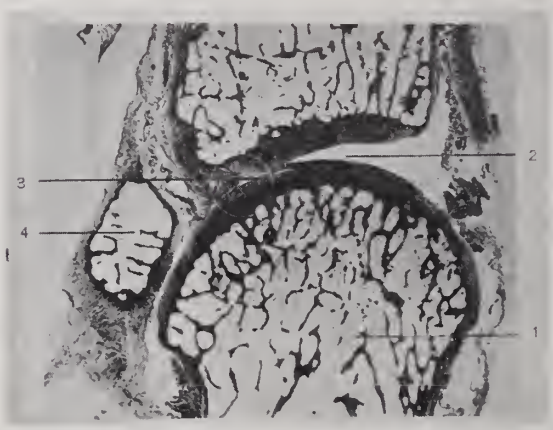
Cut 2. (Nichols and Richardson) Synovial proliferation into joint cavity.



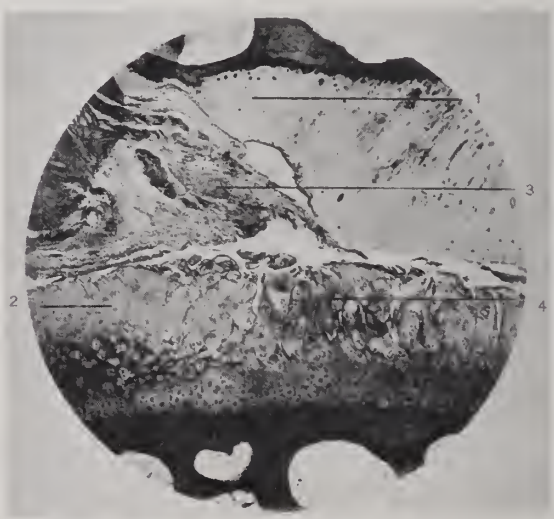
Cut 3. (Nichols and Richardson) Smothering of cartilage and destruction of joint cavity.

perichondrium and endosteum, which, when carried to extreme, replaces the fibrous union and converts the joint cavity into new bone, a condition known as complete bony ankylosis. As a consequence of pain associated with these processes, and of ankylosis, bone and muscle atrophy supervene. This atrophy is due mainly to disuse. However osteoclosis and mobilization of calcium accounting for porosity of bone may be due to some other poorly understood disturbance in calcium metabolism. This terminal atrophic state gives rise to the name "atrophic." However, it is perfectly apparent that all but the end stage is a proliferative process.

In case of hypertrophic arthritis, the site of onset of the pathologic process is entirely different. Here the earliest demonstrable lesion is in the joint cartilage. Again in place of a proliferative process, we see a process of fibrillation, of degeneration, of a splitting of the cartilage at right angles to its surface. Then the debris of destroyed cartilage

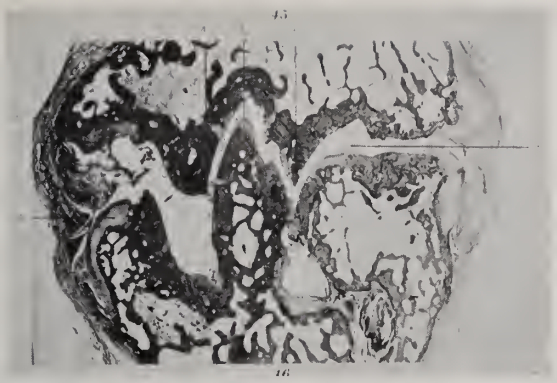


Cut 4. (Nichols and Richardson) Moderate hypertrophic changes.



Cut 5. (Nichols and Richardson) Cartilage splitting and erosion in hyperthopric arthritis.

is absorbed and the end of the bone is laid bare. Opposite this erosion of cartilage, there is proliferation of the opposing cartilage and deposit of new bone. This process gives rise to the change in outline of joint cavity. The denuded bone tends to consolidate into a hard thin surface layer, a



Cut 6. (Nichols and Richardson) Irregular joint cavity in hypertrophic arthritis.

process called eburnation. Underneath this hard surface there is great absorption of bone trabeculae giving rise to marked porosity. While the joint cavity is greatly reduced in size and deformed in outline, there is neither fibrous nor bony union.

Synchronous with these processes there is a proliferation of the perichondrium at the periphery of the joints but within the joint capsule. This ultimately gives rise to exostosis, lipping, spurs, stalactites, etc., from whence the name "hypertrophic." The capsular tissue and synovial membrane may proliferate and extend finger-like into the joint cavity and, by metaplasia, be converted into cartilage or bone. When accommodated



Cut 7. End results. Left, atrophic arthritis. Right, hypertrophic arthritis.

by a long pedicle or when separated from same, these wandering bodies are designated "joint mice." The end results of these two arthritic processes are here shown. Other points of difference are set forth in the accompanying table (Table I). To repeat, atrophic arthritis is primarily a disease of the synovial membrane and the process is proliferative. Conversely hypertrophic arthritis is primarily a disease of the joint cartilage and the process is degenerative.

TABLE I

	Atrophic	Hypertrophic
1. Primary Lesion Site of	Synovial Membrane Connective tissues of marrow spaces. Perichondrium Endosteum	Cartilage
Nature of	Proliferative Invasive	Degenerative Fibrillation Erosion
2. Secondary Lesions	Pannus formation Cartilage absorption From pannus invasion From endosteum	Irregular disappearance with localized proliferation Bone erosion and new bone on opposite articular surface.
	Abnormal bone From perichondrium From endosteum	Perichondrial exostosis Eburnation
	Joint cavity Increased fluid Then obliteration	Dry joint Irregular outline
	Capsular changes greatly thickened	Moderate thickening "Joint Mice"
	Bone shaft changes Calcium absorption Osteoclasis	Calcium absorption Exostosis
3. Terminal Lesions	Fibrous anklyosis Gross joint deformity Bone ankylosis Muscular atrophy	No ankylosis Moderate joint deformity Limitation of motion Slight muscular atrophy

Likewise the clinical picture is usually distinctively characteristic. The young asthenic female, worried and nervous, complaining of fleeting pains throughout many small joints, is a candidate for the deformity and immobility so characteristic of the atrophic form. On the other hand that robust individual past mid-life who complains of rheumatic pains in two or three large joints, particularly of the lower extremities, and then only with beginning of exercise, has no threat of ankylosis with its consequent complete incapacity. His movements may become limited, they may become slow and painful, but they will never entirely disappear. Some characteristics of these two types are beautifully demonstrated by the appearance of two hands, each of which are marked by a different type of arthritis. The first slender hand with its telltale fusiform swelling of several proximal joints must indicate the presence of the atrophic form. Likewise the gnarly stubby old hand with its Heberdeen nodes of the distal joints can only mean the hypertrophic form.



Cut 8. Left, atrophic arthritic hand. Right, hypertrophic arthritic hand.

True, there are many cases when the syndromes are not clear or one form is confused by complication of the other; yet if the usual distinctive features are sought by a careful history and physical examination, there are relatively few that cannot be correctly classified (Table II).

No hope of the most effective treatment can be anticipated and no prognosis can possibly be near the mark unless we as practitioners of general medicine can recognize these symptom complexes at a relatively early period of development and come to envisage something of the typical pathological processes that occurs or may occur in the two types.

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TABLE II

	Atrophic	Hypertrophic
Type	Slender	Stocky
Age	Under 45 years	Over 45 years
Sex	Female	Male
Symptoms and Signs	Slight fever	Tires easily
	Fatigue	
General	Malaise	
	Poor appetite	
	Chilliness	
	Nervousness	
Joints Involved	Smaller	Larger
	Many	Few
	Migratory	Fixed
	Remissions	Constant
	Painful at rest	Comfortable
	Fusiform swelling	Nodular
	Gross deformity	Moderate
	Terminal immobility	Limited mobility
Laboratory Findings	Moderate anemia	Normal
	Sedimentation rate increased	Normal
	Blood cultures frequently positive	Negative

ATROPHIC AND HYPERTROPHIC ARTHRITIS*

ROENTGEN DIAGNOSIS

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DENVER

There are many classifications of arthritis. Some are based solely on the characteristics of the soft tissue involvement, others depend upon the lesions of the bone. The division of chronic arthritis into atrophic and hypertrophic types seems particularly fortunate. These two diseases, when uncomplicated, can be contrasted clinically, pathologically, and roentgenologically. It is the purpose of this portion of the symposium to describe the roentgen differentiation and to discuss the role which the x-ray plays in the diagnosis of atrophic and hypertrophic arthritis.

Roentgen Examination

The major value of an x-ray examination is to add diagnostic evidence to the clinical picture. Serial studies also disclose the response to various therapeutic measures which, in some cases, guide further treatment. Prognostic evidence in relation to future function may be evinced and the need and probable value of orthopedic restoration of arrested cases is often demonstrated.

The difference between the roentgen signs of typical atrophic arthritis and typical hypertrophic arthritis in certain analogous stages will be shown. The discussion will be limited to the manifestations of these two classes of arthritis. No single case used in these studies shows all of the x-ray signs. As the disease progresses the development of the later stages of an unarrested case generally obscures or destroys some of the earlier roentgen characteristics. Since the arthritides under discussion begin in the soft tissues and cartilage of the joint, the roentgen manifestations may be relatively late. Only one sign appears early—the fixed position in which the muscles, voluntarily or involuntarily, reduce the pain by holding the bones composing the joint.

The next sign which may appear is increased soft tissue density, presumably the result of the products of inflammation which may contain blood and certain calcium salts.

The x-ray signs of either atrophic or hypertrophic arthritis are governed to some degree by the anatomy and physiology of the joint involved. The examples which illustrate this article show that the same type of arthritis is manifested somewhat differently in the various joints.

A joint seriously attacked by any chronic disease presents fairly constant indications in the x-ray depiction. In order to understand better the causes of the x-ray appearance in all types of arthritis it is necessary to discuss the subject as a whole before separating the signs of atrophic from hypertrophic arthritis.

Position-fixation occurs because the bones composing the joint are held so that the synovial or cartilage inflammation cause the least pressure and pain (Fig. 1).



Fig. 1. Positional fixation, an early roentgen sign of all types of arthritis. Abduction of the left femur with compensatory pelvic tilt. The intra-arthritic inflammation of synovial membrane causes less pain in this position.

Haziness of the entire joint area results from congestion and increased proportions of inflammatory infiltrates containing calcium and blood. A thickening of the joint capsule may add to the hazy appearance.

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Changes in joint spacing. This may be an increased separation of the bones by collections of the products of inflammation or a decreased space resulting from soft tissue destruction. The space changes may be symmetrical or asymmetrical, determined by the pathologic involvement which will be discussed later.

Bone atrophy of the shafts of the bones away from the joint is present in most advanced cases. This is sometimes spotty in appearance or quite contiguous.

Bone destruction at the joint margins is a common occurrence in well established cases. Other roentgen manifestations are as follows:

Bone production at the joint margins.

Ankylosis or a tendency in this direction.

Periarthritic loss of soft tissue resulting from non-function and possibly directly caused by the disease itself.

Let us see which of these fundamental findings in chronic arthritis designate the atrophic type and which manifest hypertrophic arthritis, and what pathologic processes cause the x-ray findings.

Atrophic Arthritis

Haziness of the joint area is quite a constant sign of atrophic arthritis, and one which appears comparatively early in this chronic disease. The infiltrates which cause haziness are so dense in some cases that it makes the radiograph appear to be of poor quality as if produced by faulty technic. (Fig. 2). The generalized inflammation produces not only temporary increased bulk of material in the joint region but it may contain an abnormal percentage of blood and lime salts which absorb x-ray energy more than normal soft tissue, thus preventing the film from darkening as much as it does in a depiction of the normal joint.



Fig. 2. Early roentgen evidence of well established atrophic arthritis of the wrist. Symmetrical joint space narrowing, and haziness caused by periarthritic soft tissue congestion.

Symmetrical joint space *narrowing* (Figs. 2, 3, and 4) occurs in atrophic; *asymmetrical* joint space narrowing in hypertrophic arthritis. In the former, as the disease develops a pannus* forms throughout the synovial region of the joint. Granulations originating in the pannus invade the cartilagenous tissue, more or less in its entirety. Since it is the cartilages which hold the bones of the joint apart, their destruction permits approximation of the bony boundaries of the joint. If the cartilage absorbs symmetrically, the joint space narrows symmetrically. The cartilage involvement in hypertrophic arthritis is different and produces a different x-ray appearance which will be described later.



Fig. 3. Atrophic arthritis of the knee. The only definite roentgen manifestation is symmetrical joint space narrowing. Compare with hypertrophic arthritis of the knee. Figs. 8, 9.

*Bone atrophy** (Figs. 4 and 5) away from the joint appears to be more contiguous and severe and less spotty than in the hypertrophic type. Disuse, which is more extreme in atrophic arthritis, may account for the major portion of it, but systemic active decalcification of bone has not been excluded as a possible cause.

*See table No. 2 and cuts illustrating the clinical, diagnostic and pathologic portion of this symposium.



Fig. 4. Late atrophic arthritis of the knee. Symmetrical joint space narrowing. Shaft atrophy. Bone destruction. Increased soft tissue density. Beginning ankylosis.



Fig. 5. Late atrophic arthritis of the hands. Marked bone destruction at the joints permitting dislocation. Advanced shaft atrophy. Soft tissue contraction.

Bone destruction (Figs. 4 and 5) at the joint margins is a prominent characteristic in advanced cases. After the granulations which arise from the pannus* have traversed the cartilage the bone itself becomes involved and unless the disease is arrested in its progress, destruction ensues. This is represented on the x-ray film as rarefaction. Hypertrophic disease presents increased marginal density termed eburnation.

*Periarticular loss of soft tissue** (Figs. 5 and 6) results mainly from muscular atrophy and fibrosis.

*Ankylosis**. In the late stages of atrophic arthritis abnormal bone production is incited



Fig. 6. Atrophic arthritis, very late. Clinical and roentgen evidence of ankylosis. Uncomplicated hypertrophic arthritis rarely if ever shows x-ray evidence of ankylosis.

in the endosteum of the bony joint boundaries. This reaches out to join that from the opposing bone and fuses in unarrested cases. As a rule the x-ray alone cannot determine just when this union assumes the proportions of bony ankylosis. Uncomplicated hypertrophic arthritis rarely if ever produces this condition.

Hypertrophic Arthritis

As do the clinical and pathologic manifestations, the roentgen signs of this type of arthritis differ definitely from those produced by the atrophic form. It is now appropriate to describe the diagnostic x-ray manifestations.

Asymmetrical joint space narrowing differs from the symmetrical involvement of the atrophic type, because the disease attacks isolated spots of the cartilage directly, in the hypertrophic disease*. No generalized pannus formation with widespread granulations is present. The cartilage is destroyed unevenly or is not diseased at all in some portions. The bony joint boundaries therefore approximate each other on the side where there is cartilage destruction, not at all or to a less degree on the opposite side. (Figs. 7 and 8). The joint remains dry so that the haziness and soft tissue manifestation so characteristic of the atrophic type are missing from the typical hypertrophic picture.



Fig. 7. Hypertrophic arthritis of the shoulder, characterized roentgenogically by asymmetrical joint space narrowing, marginal eburnation of the bones at the joint, irregular bony joint margins and one of the so-called "joint mice."



Fig. 8. Hypertrophic arthritis of the knee. Asymmetrical joint space narrowing. Marginal bone lipping. Eburnation of the margins of the bones which compose the joint.

Marginal bone lipping. The perichondrium at the periphery of the joint proliferates along the bone margins as described elsewhere in the symposium*. The bone formation which ensues produces the familiar lipping most often seen in radiographs of the knee and spine (Figs. 8 and 9).

Irregular joint margination (Fig. 7) is another roentgen sign of the hypertrophic type of arthritis. The cartilage which is directly



Fig. 9. The lateral view of the same joint depicted in Fig. 8.



Fig. 10. A common type of arthritis of the hip generally called osteoarthritis. It is probably true hypertrophic arthritis regardless of its cause. The case shows spotty atrophy of the femoral shaft and ileum in addition to other signs of hypertrophic arthritis.

opposite the diseased areas of cartilage does not, as a rule, participate in the pathologic process in the same manner as the original site. Instead it proliferates and abnormal bone formation begins.* This causes irregular bone surfaces shown in profile by a properly made radiograph, which condition furnishes a valuable diagnostic criterion.



Fig. 11. Both atrophic and hypertrophic arthritis are present in this lumbar spine. Segments one and two, and four and five show the common hypertrophic lipping. The bony ankylosis joining the bodies of third and fourth lumbar segments is the result of atrophic arthritis.

Eburnation. The same process which causes the irregular edges produces increased marginal densities (Figs. 7 and 8) which are a marked contrast to the regular rarefied margins of bone destruction which typify atrophic arthritis.

Spotty atrophy (Fig. 10) is ofttimes distributed in a puzzling manner and has given rise to considerable controversy. However, it is most probably a true disuse atrophy whereas the larger contiguous decalcified areas in severe atrophic disease may, as stated, partially depend on a systemic decalcification.

Joint mice (Fig. 7) result as shown elsewhere* from ossification of synovial membrane and capsule projecting into the joint. These so-called mice constitute a frequent and distinctive x-ray sign of late hypertrophic arthritis.

Summary

1. The uncomplicated forms of atrophic and hypertrophic arthritides are contrasted by the following roentgen signs:

ATROPHIC	HYPERTROPHIC
Haziness of joint area.	Marginal bone lipping.
Symmetrical joint space narrowing.	Asymmetrical joint space narrowing.
Bone atrophy.	Spotty atrophy.
Bone destruction.	Eburnation.
Periarticular loss of soft tissue.	Irregular joint margination.
Ankylosis.	Joint mice.

2. The pathologic cause of the x-ray appearance is discussed.

TREATMENT OF CHRONIC ARTHRITIS*

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The treatment of chronic arthritis is not an easy undertaking. Perhaps it would be less difficult if the etiology were more fully explained in every particular. Each patient is an individual problem, and no one form of therapy can be applied successfully in every case, nor to the same case in its different stages.

Since arthritis is a systemic disease with local manifestations in the joints, it is necessary to consider not only the joints in particular, but also the body as a whole. The application of general measures is emphasized, as there is no known single cause or cure.

Arthritis is a many sided problem, and to classify accurately each patient in one or the other of the two great groups is often difficult, as many of them appear to be borderline cases or a combination of the two recognized types. Thus a careful diagnosis is essential, and treatment of any kind should not be undertaken without first making a

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thorough preliminary study of the clinical features of each case and the plan of procedure outlined accordingly.

Hypertrophic Arthritis

Here we are dealing with older people who are usually overweight, frequently have a low basal metabolism, but are as a rule in good general health, and have no complaints except for the affected joints.

Treatment includes drugs, rest, and diet.

Drugs: Thyroid extract often gives at least partial relief, and is recommended if the basal metabolic rate is low. Salicylates may be used to relieve the pain.

Focal infection, if present, should be removed to prevent secondary infection of the joints and to protect the general health of the patient. Vaccines are of no benefit since the disease is not of an infectious nature.

Rest: Rest is particularly important because the weight bearing joints are the ones that suffer most, due to the unnatural strain and chronic trauma of faulty postures and improper gait, plus the obesity of the patient.

When the knee is involved, particularly if fluid be present, bed rest and immobilization are indicated. If the case is one of morbus coxae senilis, or hypertrophic spondylitis, the orthopedist should be consulted. Heberden's Nodes require no special treatment.

Diet: The chief object in diet is to reduce the weight and take the load off the joints. Ample protein should be allowed (one gram per kilo of body weight) to supply the nitrogenous waste. Fats are reduced to the minimum, and the carbohydrates supplied in the form of the natural protective foods—fruits and vegetables. Thus the weight is reduced, and the joints are depleted with a gradual subsidence of the pain, stiffness, and general disability. While the main object is to reduce the weight of the patient, the diet must be adequate in every other respect.

The diet should be continued indefinitely and the weight kept as nearly normal as possible, being careful to supply plenty of the protective foods.

Rest of the affected joints and reduction in weight by proper diet, together with the aid of the orthopedic surgeon are the most important procedures in the treatment of hypertrophic arthritis. Only a few joints are involved, and if properly treated, the course of the disease may show little progression with only a moderate degree of disability.

When medical science has advanced to the point where the degenerative changes which set in after middle life can be prevented, hypertrophic arthritis will cease to be a problem.

Atrophic Arthritis

Prophylaxis: Prophylaxis is of particular importance and should be considered as a major part of the general plan in the study, prevention, and cure of atrophic arthritis.

Diligent search for focal infection in children and young adults and the prompt elimination of all established foci will do much toward removing the possible sources of toxemia in the years to come. Also, better methods of living, better hygienic surroundings, and proper diet will aid in preventing malnutrition, anemia and lowered resistance which are important predisposing factors. Lowered resistance favors infection of every kind and arthritis is no exception[1].

General Management: In the general management of atrophic arthritis, the following therapeutic measures are emphasized—removal of focal infection, rest and exercise, diet, bowel management, physical therapy (heat and massage), climate, drugs, blood transfusion, and vaccines.

Focal Infection: Since the infectious theory is quite generally accepted, it seems rational that the early elimination of all established focal infection should be the starting point in treatment. Although not entirely proved, focal infection therapy is considered the keystone of the modern treatment of atrophic arthritis. [2]Therefore, a systematic plan of removing all established foci of infection is justified.

The removal of the focus often helps the patient to regain his resistance, particularly if the operation, e. g., a tonsillectomy, is followed by a building up of the natural defenses of the body byl general measures[3].

Many failures in treatment are due to delay in removing foci of infection. After

three to five years, secondary foci may be established, thus carrying the process on and on indefinitely. Many cases eventually burn themselves out and become quiescent, but by the time such a stage is reached patients often find themselves hopelessly crippled.

Focal infection is perhaps the most important single factor in the treatment of atrophic arthritis, and is often the initial cause of the disease. Prompt removal of the foci cures many patients, but not infrequently other factors enter into the picture and the disease progresses. Therefore, removal of a focus is only the beginning of a plan of treatment, which to be successful requires a broader view of the disease[4].

Rest: Rest must be both physical and mental and should be combined with exercise and massage. An unstable nervous system, emotional upsets, etc., are important etiologic factors and also play an important part in the prognosis. Therefore, to stabilize the nervous system adds greatly to the patient's chances of recovery.

Immobilization of the joints would seem to be correct in principle but it is not practiced generally because so many joints are involved. However, in certain cases where only one or two joints are affected. complete immobilization is advocated especially in the beginning to relieve the muscle spasm which causes trauma and irritates the joint surfaces.

It is generally agreed that rest is one of the most important procedures in the plan of treatment, and many cases, if taken early, can be cured by rest alone plus the prompt removal of focal infection. Eighty-two per cent of a series of 200 cases treated in this manner by Cecil were either cured or definitely improved[1].

Diet: Diet alone cannot be depended upon to bring the result as there is no standard diet, and no specific diet in any form of arthritis except gout[5]. There is likewise no evidence that either acid or alkali-forming foods play a part.

The reduction of carbohydrates has until recently been accepted as valuable, but the explanation is not quite clear. With such a diet there is a relative increase in the consumption of vitamines, and Sladen, Ensign, and McColl[6] in a study of 138 cases conclude that the difficulty lies in the fact that many patients consume carbohydrates in the form of highly refined concentrated foods which are lacking in the essential elements such as minerals and vitamines. On the other hand, when an equal quantity of carbohydrate is taken in the form of the natural protective foods (unrefined cereals, dairy products, fruits, and vegetables), definite improvement, both local and general, is noted in patients with both types of arthritis.

High carbohydrate diets with insulin have been recommended to increase the weight, and at times it is best to disregard all diets until the patient is restored to normal weight, strength and resistance.

In the more recent literature there are many discouraging reports concerning the value of low carbohydrate diets, and several observers, particularly Bauer[5], feel that the carbohydrates have no specific influence one way or the other on the progress of the disease except to reduce weight, and since most atrophic arthritis patients are below normal in weight, low carbohydrate diets are seldom indicated. The same is true of protein. In fact, the protein intake should be relatively high or at least sufficient to maintain a protein balance and to supply the extrinsic anti-anemic factor.

The present tendency is to disregard all so-called specific diets, and also submaintenance diets except in certain cases where it is advisable to bring about a prompt depletion of the edematous joints to relieve the pain. This reduction in swelling has been explained on the basis of water balance[7].

Many cases, according to Fletcher, show abnormalities of the colon and the administration of Vitamin B is recommended to correct the atony and abnormal contour of the bowel with a corresponding improvement of the patient[2]. Fletcher's work, however, has not been entirely accepted by such men as Holbrook[3] and particularly by Bauer who points out that there is no proof that colonic abnormalities are in any way specifically related to atrophic arthritis, as the incidence of such abnormalities is no higher than in non-arthritis cases, and that any one

of these variations may occur without symptoms. They are probably "a manifestation of chronic disease states rather than a condition peculiar to chronic arthritis[5]."

The administration of Vitamins A, B, C, and D is said to increase the patient's resistance to infection, and many cases so treated show improvement in their general health even though the joints may not improve[2].

The question of diet has been overestimated. Food idiosyncrasy or food allergy can be rarely demonstrated[9].

Without hesitation one should prescribe a mixed, balanced, and varied diet which must be adequate in calories and contain all the essential elements.

Bowel Management: A majority of patients have gastrointestinal disturbances of some sort and are usually constipated. The bowel may be a focus, and improper elimination from the intestinal tract is thought to be a factor in producing arthritis, but the evidence is not conclusive, and there is a growing tendency to doubt whether the source of arthritis can be actually traced to the bowel since the abnormalities as described are uncertain.

Although the gastrointestinal tract is said to play a small part in the production of the disease, [10]it is observed that joint exacerbations do frequently occur with intestinal upsets. [8]Therefore, proper elimination through the bowels and also the kidneys and skin is of great importance. High colonic irrigations may be of some value, but a simple enema of physiologic saline solution is probably just as good. Alvarez[11] doubts whether colonic irrigations have any curative value. Cecil recommends colon irrigation once a week. [2]A daily bowel movement accomplished by proper diet, a simple laxative or saline enema is all that is necessary.

Hot packs, the electric light cabinet, and free water drinking will insure adequate elimination through the skin and kidneys.

Physical Therapy: Most patients show a defective peripheral circulation, and as Kerr[12] expresses it the common denominator in most methods of treatment that are reputed to be of value is to improve the circulation to the affected joints either by local or general means.

Graduated systematic exercise combined with and following the initial period of rest is very helpful. Active motion is better than passive motion as it helps to preserve the integrity of the joint, minimizes nutritional changes, decreases atrophy of bone and muscles, and aids in preventing ankylosis and deformity. [13]Exercise in pools of water at 96 F. is beneficial.

Local heat applied with the infra-red lamp or bathroom heater, and massage, not of the joints but of the muscles, are recommended by practically all observers.

Diathermy is of value in the chronic stages, but if used too vigorously it may keep an arthritis active that might otherwise subside.

Any form of treatment that offers the slightest hope of relief to arthritis sufferers should be carefully considered. At present, much is being said in regard to artificial fever therapy, and in certain acute infectious forms, e. g., gonococcal arthritis, the results are spectacular, but in atrophic arthritis the reports are not so encouraging. In a series of twenty-five cases of atrophic arthritis observed over a period of one to three years, Bauer and Short report 20 per cent improved, 28 per cent unchanged, and 52 per cent worse. It works best in younger patients with disease of short duration, but this group also responds best to the usual plan of general therapy. Severe reactions may occur and it should not be used to the exclusion of general treatment[14]. Further study and investigation will be necessary before this new treatment can be properly evaluated.

The value of physical therapy is being increasingly recognized. It is one of the oldest forms of treatment and has its limitations but is considered the best means at hand to improve the circulation, which is usually poor in arthritis. However, "Hit or miss physical therapy with only a vague purpose in mind is not the solution[13]."

Climate: Holbrook[8] of Tucson, Arizona, stresses the importance of climate. He states that there is a low incidence of atrophic arthritis in local Indians on the Tucson des-

ert. In fact, not a single case of arthritis was found in 5,000 Indians observed, even though their chief diet is beans and corn, and practically all of them have definite focal infection. On the other hand, it was noted that arthritis is common among similar tribes living in colder climates. Also it was observed that there is a low incidence of arthritis among native residents in the Tucson desert.

The dry hot climate of Arizona may be more a preventive than a cure, but many patients who move to Tucson are improved. Other stubborn cases derive no benefit.

Holbrook reports a series of 100 cases in which satisfactory results were obtained without any specific treatment except general measures plus the climate and heliotherapy. Climate does not do it all as the added rest and change of scene play a part.

Drugs: Since most cases of atrophic arthritis have some degree of anemia, iron together with an anti-anemic diet is recommended to build up the blood constituents. Arsenic and strychnine have a good tonic effect. Salicylates should be used as a routine to relieve the pain.

Amidopyrin is a splendid pain reliever but should be prescribed with care because of the danger of producing agranulocytosis.

The administration of thyroid substance speeds up the circulation and influences metabolism, but rarely cures arthritis.

Oxoate B (calcium ortho-iodoxybenzoate) gave splendid results in 236 cases reported by Wheeldon[15]. It is said to improve the peripheral circulation. Sulphur is recommended in cases where the cystine content of the finger nails is low. [16]Cod liver oil is of value because of its vitamin content. Chaulmoogra oil by injection has been tried with a fair degree of success. Opinions differ as to the value of colloidal gold preparations. Iodine has been recommended as a routine.

Cinchophen is a dangerous drug. Many deaths have been reported due to liver damage, such as toxic hepatitis with jaundice and acute yellow atrophy.

In this connection, Hench[17] has made some interesting observations. In a series of cases of atrophic arthritis in which intercurrent hepatic jaundice developed as a result of cinchophen or neo-arsphenamine poisoning, the pain in the affected joints was definitely relieved for varying periods of time. No explanation is offered except to suggest that the serum bilirubin may have a depressant effect on the nervous system or a sedative action on the inflamed joints.

This theory of analgesia accompanying hepatitis and jaundice in arthritis opens up a possible field of therapy, and perhaps the administration of bile salts might prove to be beneficial.

Blood transfusion: Blood transfusion combats anemia and is known to have a favorable influence on the progress of the disease in certain selected cases. Patients in the subacute and early chronic stages are benefited most[8].

Vaccines: Much can be said for and against vaccines, and regardless of personal views, it must be admitted that the number of patients who derive benefit is great enough to justify a trial of vaccines in cases that are proved to be infectious in origin, and particularly those who fail to respond to the usual methods of treatment.

Stock vaccines such as Clawson and Wetherby's non-specific streptococcus and Cecil's "typical strain" of streptococcus are the ones most generally used.

Autogenous vaccines which give a strong positive skin sensitivity test are preferred by many who are conducting arthritis clinics. However, positive skin reactions do not prove that the particular streptococcus in the vaccine is identical with the organism which is producing the joint irritation. In other words, a positive skin reaction does not prove casual relationship, but suggests that the streptococci play a role[18]. Skin reactions are variable and difficult to interpret and the degree of skin reaction bears no definite relation to the clinical condition of the patient. [10]Wainwright reports improvement in 75 per cent of cases treated by vaccines and rest, but Dawson suggests that equally good results may be obtained by rest alone.

There is no agreement as to the method of administration or dosage, but the consensus of opinion is in favor of small doses

given intravenously. Reactions of every kind should be guarded against, and the vaccine should be continued over a period of several months.

"Shock Therapy," either by vaccine or non-specific protein, has been practically abandoned, especially in the chronic cases[1].

Experienced observers agree that it is difficult to draw any definite conclusions as to the value of vaccines, owing to the fact that the natural course of the disease is to move in cycles of exacerbations and remissions. Not infrequently, too much credit is given to any one single form of therapy which happens to be administered during a period of improvement[3,4].

Extravagant claims have been made, but it is generally agreed that the problem of vaccines still remains for solution, and since their value is not entirely proved, they should not be considered as a "cure-all," but merely as an aid to the recognized general plan of treatment.

Summary

As the situation stands today, there is no known single cause or cure for chronic arthritis, and the whole problem presents itself to the profession for solution.

Atrophic arthritis is a crippling disease and is usually progressive. It is largely a medical problem and if treated properly may is considered to be controllable. Prognosis depends on early diagnosis, early removal of focal infection, and appropriate treatment, both local and general.

Hypertrophic arthritis shows less tendency to progression and ankylosis. Many patients do well with little or no treatment.

Authorities differ in their opinions as to the value of special forms of treatment, but agree largely as to the general measures.

Physicians are inclined to be pessimistic as to the outlook, but the results of recent studies in etiology, preventive and therapeutic measures are encouraging, and the results of treatment compare favorably with other chronic diseases.

Favorable results may be expected in from 50 to 80 per cent of cases treated in the early stages, and a majority of patients in this group should be restored sufficiently to be able to carry on their usual work.

With an early diagnosis and prompt treatment many patients will be improved or cured and much will be done toward preventing ankylosis and deformity.

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THE TREATMENT OF CHRONIC ARTHRITIS FROM THE ORTHOPEDIC STANDPOINT*

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In the care of arthritis the orthopedist finds his place first in preventing deformities, next in correcting deformities, and finally in restoring function to joints when possible and when considered advisable to do so. In addition, he should supervise the treatment given each joint by the physiotherapist.

It is the purpose of this paper to emphasize the essentials of this orthopedic care without going into unnecessary details. The principles of treatment laid down are applicable for both types of chronic arthritis.

Prevention of Deformities

In preventing disabling deformities the orthopedist makes his most valuable therapeutic contribution in connection with this most common of chronic diseases. In the acute stage of the disease, rest and immobilization of the joint in the proper position is important above all else, and in view of the fact that chronic fatigue is one of the chief factors in all arthritis, bed rest is essential.

When a joint is inflamed, that joint will at once assume a certain position in an attempt to reduce pain and muscle spasm. This so-called neutral position will, unfortunately, lead to deformity, impairment of function, and even to ankylosis if left to itself. Therefore, it is absolutely necessary to support an inflamed joint by some form of splint in that position which will be most serviceable for future use.

The position of choice (or election) for each joint is as follows:

ANKLE—With the foot at right angle to the leg and slightly inverted.
KNEE—10° flexion.
HIP—20° flexion and slightly abducted.
FINGERS—Half flexion.
WRIST—25° dorsiflexion.
ELBOW—Flexed to 80° with forearm midway between supination and pronation.
SHOULDER—50° abduction and 15° flexion.
SPINE—Full extension with no increase of the normal curves.

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For the purpose of placing a joint at complete rest and protection and maintaining the position of choice, the bivalved plaster of Paris dressing is, in my opinion, superior to any other form of apparatus, splint, or brace. When properly applied, it is light, comfortable, and efficient. It can be molded to fit any part perfectly, is easily removed for inspection, exercise, and physiotherapy, and it is not expensive. It should be used as long as a deformity tends to occur. When certain joints are involved, as the hip and knee, traction is employed. This relieves pain, separates the inflamed surfaces, and prevents contractures.

Extremely important in the prevention of deformities and restoration of function is exercise of the joint. When should this be begun? Sir Robert Jones said, "Movement has no part in the treatment of arthritis during the painful, inflammatory stage." The state of affairs is simply this: Too early and vigorous exercise to an inflamed joint keeps the inflammatory process active, produces muscle spasm, and defeats its purpose, while too much absolute rest leads to muscle and bone atrophy and joint stiffness. The answer is the happy medium. Active painless exercise should be encouraged early. The movements should stop short of pain and they should be active rather than passive. These exercises are carried out daily, and, as improvement progresses, they are used more frequently. They are reduced if pain and stiffness increase. Careful judgment and observation are required to estimate the proportion of rest and exercise indicated for the individual case. Various types of apparatus are devised to facilitate these exercises. The importance of postural exercises, as emphasized by Swaim and Pemberton, must be borne in mind always. These exercises are described minutely in their writings included in the bibliography of this paper.

Coincident with exercise and following the same general precautions in its use, physiotherapy is an indispensable adjunct in the

treatment of chronic arthritis. Radiant heat, sweat baths, heliotherapy, diathermy, and massage—all aid in restoring muscle tone and joint motion and in stimulating circulation, which, in these cases, is always sluggish. The massage should be very gentle and applied to the muscle above and below the joint. Physiotherapy in all its forms appears to be most helpful when given just prior to the exercise of the part.

When the residual or ambulatory stage is reached, light walking braces are used for the lower extremity, where they relieve the joint from strain and at the same time permit the required exercise. The spine is protected by the lightest brace possible, consistent with the necessary comfort and support and for the upper extremity a light supporting plaster shell and a sling is usually all that is required.

All supports are worn as long as necessary to prevent recurrent deformity and finally are discarded gradually. Exercises are increased and occupational therapy is employed, now, to advantage. Physiotherapy should be continued, particularly heliotherapy.

Correction of Deformities

Cases of chronic arthritis are more frequently seen after deformities have developed or are, at least, in the process of development. The type of treatment to be instituted then will necessarily depend upon such factors as the stage of activity of the disease, the degree of deformity present, whether or not bony ankylosis has taken place, and so forth. In the milder cases before marked organic changes have taken place in the joint and surrounding structures, continuous traction will generally correct the deformity. The hip, knee, shoulder, and fingers respond well to traction, which should be accompanied by regulated exercise and physiotherapy. An effective method of correcting deformity, when the disease is quiescent and fixed ankylosis has not occurred, is by the use of the wedged or turnbuckle cast. This is especially useful in correcting knee and elbow contractures, but care must be taken to use sufficient padding in order to prevent pressure sores.

Forcible manipulation of a joint should never be done until the arthritis is symptomless and inactive and only when the limitation of motion is due to adhesions and not to ankylosis. Sir Robert Jones in 1931 emphasized the fact that this procedure has been greatly neglected by the profession and again advocated its use in properly selected cases. Under general anesthesia a joint, such as the shoulder, is carefully carried through its complete range of motion once and only once. Excessive force should never be used, for if adhesions are strong enough to require such force, open operation is indicated. I am fully aware of the fact that some surgeons do not approve of brisement forcé in correcting deformities. We all agree that its careless or indiscriminate use is to be condemned. After the manipulation is completed the shoulder and arm are put up in a plaster of Paris dressing in the fully-corrected position and early active and then passive motion begun. The passive movements should be gentle and slow and not of the so-called "pump handle" type, which are repeated and jerky. Persistent pain and stiffness are danger signals.

Operative Treatment

Finally to that group of deformed or disabled individuals who have long since reached the advanced, quiescent stage of chronic rheumatism, surgery still offers hope and encouragement. The following points regarding the more common procedures of recognized values are briefly enumerated.

1. Tenotomies and Capsulotomies are indicated for contractures particularly about the hip, knee, and ankle when fibrosis of the surrounding structures is such that the "position of choice" cannot be secured by more conservative measures.

2. Osteotomy is performed for the correction of a deformity resulting from the bony ankylosis of a joint in a position which will prevent proper use of an extremity and in which arthroplasty is not considered the operation of choice. Examples: Hip and knee.

3. Arthrodesis (or fusion) will relieve pain in a joint where the disease has damaged it to such an extent that restoration of painless function is impossible. Frequent-

ly employed in hip, knee, ankle (tarsus), and wrist.

4. Arthroplasty is of particular value in the jaw and elbow, and also in the hip and knee. The operation is the reconstruction of a joint where there is complete ankylosis. The highest percentage of restoration of function is secured in monarticular ankylosis.

5. Loose bodies (joint mice) should be removed.

6. Synovectomy will often relieve the symptoms of a knee of the hypertrophic type when conservative measures have failed.

All surgical procedures are followed by immobilization, active and passive exercise, and physiotherapy. Conscientious after-care is essential if satisfactory results are to be obtained.

Conclusions

1. The successful treatment of the chronic arthritic calls for teamwork on the part of representatives of various specialties. We owe these patients our fullest medical cooperation.

2. Practically all deformities can be prevented, provided treatment is instituted in the early stage of the disease. Prevention of deformity is easy; correction, difficult.

3. In the advanced stage of the disease when disabling deformities have taken place, the orthopedic surgeon, by a well-chosen operative procedure, followed by persistent after-care, can sometimes convert an arthritic derelict into an individual quite capable of earning his living and becoming a useful member of society.

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GENERAL CONCLUSIONS OF THE SYMPOSIUM*

Chronic arthritis is an ancient disease which at the present time is a chief cause of pensionable invalidism. In its classification all arthritis secondary to known systemic invaders or to certain other conditions is excluded. The term "chronic arthritis" refers to two entities only—namely atrophic arthritis and hypertrophic arthritis. It is emphasized that these two types are contrastive to each other in every respect.

Hypertrophic arthritis is considered to be an articular degeneration brought on by the stress of usage. Its pathology is primary in the articular cartilage and results in eburnation, bony over-growth and lipping, but never in atrophy or bony ankylosis. The disease involves larger joints in older persons, gives only slight deformity, and presents the pathognomonic Heberden's nodes. Its x-ray diagnosis depends upon the finding of errors in joint alignment with bony overgrowth, joint mice, lipping, and increased bone density. Its treatment consists of dietary reduction, thyroid extract, drug relief of pain, and rest.

Atrophic arthritis is visualized as a general disease with local evidence in the joints. Its etiology embraces a large group of physiologic disturbances among which are mentioned vascular, gastro-intestinal, dietary, metabolic, postural, nervous, climatic, and infectional components. Its pathology is primary in the synovial membrane which, by its continuous proliferation, leads to destruction of the articular cartilage followed by complete bony ankylosis, muscular atrophy, and bone rarefaction. The disease occurs in younger persons, is polyarticular and wandering, gives marked deformity, and is signalized by fusiform swelling, ulnar deviation in the fingers, and subluxation of joints. It has a variable x-ray diagnosis depending upon the stage of the lesion, but it eventually shows bony union with decreased bone den-

*This conclusion was presented by Dr. Sears, the Presiding Officer of the Symposium.

sity. Its medical treatment consists of an attack upon focal infections, plus a correction of all discoverable errors in physiology. This includes rest, dietery, drug, vaccine, climatic, x-ray, and physical therapies. Orthopedic treatment is important to prevent deformity if it has not occurred or to correct it if it has.

ABSTRACT OF DISCUSSION

G. P. Bailey, M.D. (Edgewater): Dr. Sears has menticned the wide prevalence of arthritis. Some statistics that were gathered recently by one of the large insurance companies indicate that chronic arthritis is second in cause of disability in this country, being second only to accidents as cause of disability. Altogether, the percentage of disability from arthritis is more than that of tuberculosis, cancer and organic heart disease put together. We do not think of this disease being so prevalent.

One of the explanations is that chronic arthritis is a disease of long duration. Some of the cases last as long as twenty years, while in contrast, the disability from tuberculosis probably averages not more than three years, from cancer less than that time, and organic heart disease more than that. The morbidity, therefore, is greater than any other disease. However, the mortality rate is much less than these others mentioned.

Heretofore, treatment of 75 per cent of these cases of chronic arthritis has been done by the irregular practitioners and chiropractors. The statistics supporting this statement were gathered through the Mayo Clinic some time ago and are very reliable.

There is a good reason for us losing our patients to the chiropractor. The chiropractor will promise and do probably more than the general medical practitioner will promise or do. He will actually get his hands upon these patients and either through massage, manipulations or physical means, make it appear to the patient that he is trying to do something for him. The average practitioner contents himself with writing a prescription, giving some vaccine, doing the simple things. Those things having failed, he loses interest in the case. The patient naturally loses interest in the practitioner and goes to somebody else.

Dr. Kemper has very thoroughly discussed the pathological differences in atrophic and hypertrophic arthritis. It should be mentioned, however, that these two types very frequently overlap and it is doubtful which one method of treatment you should follow in some of these cases.

Dr. Sevier has stressed the importance of prevention of deformity. It is in the early stage of this disease that we can do most in prevention of deformities.

The theory of vaccine treatment is based upon that of foci of infection and the streptococcus is considered to be the organism most frequently involved. However, there are some research workers who hold that the staphylococcus is also to be considered. There are two main types of vaccine treatment—the autogenous vaccine and the stock vaccine. There are two types of administration—intravenous and subcutaneous. The theory offered by some of the research workers is that this vaccine treatment is a process of desensitization similar to that of desensitization in our hay fever patients. Therefore the more acute this disease, the more caution we must exercise in administering vaccine to prevent undesirable reactions. It is much better to decrease the dose in the presence of unfavorable reactions or to stop vaccine entirely in cases that are very acute.

Seventy per cent of the cases are somewhat benefited by vaccine treatment, according to numerous workers. However, some recent reports have minimized the importance of vaccine treatment in this disease.

Dr. E. G. Billings (Denver): I wish to make a statement, with fear and trembling, and to ask a question. I have had the opportunity to see several cases in which, as I would say, a tension state exists manifested to a great extent to the vegetative nervous system level on which there were vasovegetative repercussions. I have seen some of these cases show acrocyanosis, with which you are all familiar, and also go on to some of the erythromelalgias. I have also seen some of them begin to develop periarticular joint changes such as have been discussed.

I am wondering if one fact which was stressed by three different men, namely, the mental or nervous side of this disorder, does not play some role. Is it possible that a period of being under stress and strain, tension present, with vegetative nervous system imbalance, would prepare the ground for infectious invasion or for body responses in the form of bone proliferation, etc.

The mental rest, or at least the rest that was stressed as being part of the treatment, I think in some cases also includes rest from tension or an emotional basis. Emerson in 1929 or '30 made a point of that in a study of a long series of cases particularly of the atrophic type. It undoubtedly is an open question.

I would like to hear what these authorities say regarding the possibility of taking that phase into account only as one factor in the development of such a syndrome.

J. W. White, M.D. (Pueblo): I desire to ask a question. Do the parathyroids play any part in this condition? I have failed to hear whether you mentioned the blood chemistry—whether it was normal or abnormal.

Dr. Sears: I will answer the question at this time. Calcium metabolism is not disturbed so far as the observations of the blood calcium go There has been some discussion of the parathy roid effect on arthritis, but at the prescnt time it has not crystallized to the point where any definite statement can be made.

Cholesterol chemistry in atrophic arthritis shows a reduction in blood values. Tests of blood sugar are normal. We have no disturbance in the purine metabolism.

Atha Thomas, M.D. (Denver): I would like to state briefly a case history which graphically and startlingly illustrates the economic importance of the prevention of arthritis.

A girl 18 years old, weighing 175 pounds, an elevator pilot, was the sole support of her family —an invalid father and two younger sisters and brother. She had a mono-articular arthritis of the knee. She received excellent medical treatment but was allowed to lie in bed in the position which was most comfortable, which was that of 90° flexion.

The disease cleared up under medical treatment, but she has a resulting ankylosis at 90° flexion. She is so heavy she cannot even walk on crutches. She cannot return to her occupation as an elevator pilot.

It took a year and a half orthopedic treatment to get that knee straight. A flat iron at the end of the bed, with adhesive to each side, kept the knee straight. She would have had a bony ankylosis but it would have been straight and she could have run her elevator just the same.

R. B. Weiler, M.D. (Del Norte): I desire to make a plea that chaulmoogra oil intramuscularly be tried experimentally. I believe that the meager reports in the literature show it has been tried all too infrequently. Personally, I have had very gratifying results with this particular drug. However, I do not believe that it should be used to the exclusion of other methods, but merely as one of the adjuncts. I am sure that if it is given more widespread use we can evaluate its use or its worthlessness in a short time.

Too often these new remedies are not being used because of the fear of untoward action. I have given some hundred injections, more or less, of this particular drug without any untoward reaction whatsoever.

CASE REPORTS

THROMBOTIC VARICOCELE AT MOUTH OF FEMALE URETHRA

KENNETH A. HILL, M.D.
DENVER

The following case is reported because of its interest in differential diagnosis and because the condition is not described in the usual text-books of gynecology or urology.

REPORT OF A CASE

The patient was a white woman 64 years old, married but without children. Her complaint was that she had been "flowing" for one week for the first time in twenty years.

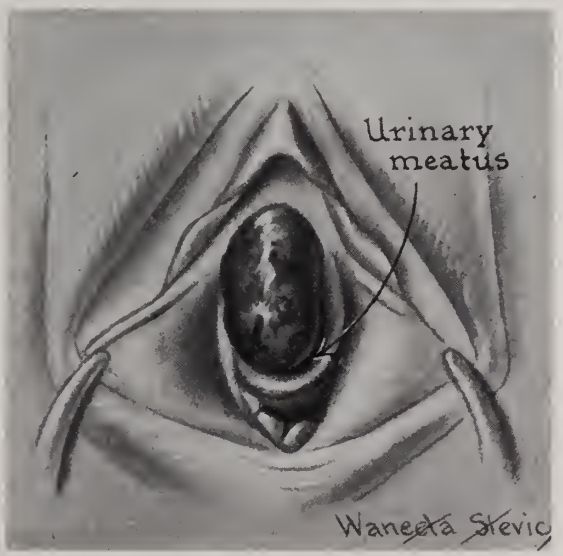
A fibroid tumor of the womb had been removed twenty years ago and the operation had been followed by cessation of menstruation. In December, 1931, the patient experienced an incident marked by bleeding from high in the gastro-intestinal tract, perhaps from varices. She says she went to bed with a hot water bottle over the left side of the abdomen every night for two weeks because of a certain degree of soreness without any acute pain. During this time she noticed that her stools were tarry. Then one day she fainted. Her blood pressure and blood count were found to be very low and her pulse very rapid. She was put to bed for three weeks. Gastric analysis at the end of that time showed normal acid values and no blood. There has never been any suggestion of peptic ulcer (other than this) at any time either before or since then and the patient eats as she pleases. There is no history of injury to the urethra or vagina nor of any infection or treatment thereof.

Physical examination (Nov. 5, 1935) disclosed an eroded and partly gangrenous tumor of the vestibule of the vagina just anterior to the urinary meatus. The tumor was of about the size and shape of a hazel-nut, purplish, well defined, nonfluctuant and attached by a base as broad and as long as any part of it. The mucous membrane did not seem to be involved except by the secondary erosion. The urinary meatus was distorted into a semilunar slit by the presence of the tumor. A No. 16 French soft rubber catheter passed into the bladder with ease. The stump of the uterus was found to be atrophic and there was no blood on the examining finger. There were no pelvic or abdominal masses, the liver and spleen were not palpably enlarged, there were no dilated veins over the abdomen, no demonstrable ascites and no enlargement of the inguinal or other lymph glands. Piles were present to a moderate degree. There were no noteworthy varicosities of the superficial veins of the legs.

Operation was performed on Nov. 7. The protruding mass was cut away and the deeper parts dissected from the adjacent tissue without disturbing the urethra to any extent. The mass was very much like a large, thrombotic, external hemorrhoid.

The pathologist, Dr. E. I. Dobos, reported: "Microscopic examination of the tissue specimen shows several large venous sinuses within the sectioned area; many of the sinuses show thrombosis in the lumen. The adjoining tissue shows large necrotic areas that are infiltrated with purulent exudate. No evidences of neoplasm were encountered."

The patient recovered without any untoward incident and was all right when seen two weeks later.



Discussion

The lower portion of the female urethra is surrounded by a plexus of veins, the plexus of Santorini. Although the pathogenesis is not entirely clear, it would appear that these veins became varicose and bled in very much the way that the hemorrhoidal veins become varicose and bleed, probably as the result of an infective phlebitis. Thrombosis is an almost constant feature of hemorrhoids and necrosis and infiltration with purulent exudate may complicate the picture

in such cases just as it did in the case under discussion. Most proctologists seem to feel that there is little connection between hemorrhoids and varicosities elsewhere in the body, although many individuals exhibit both. It is interesting to speculate as to a possible connection between the mass which is the occasion of this report, the piles also present, and the gastro-intestinal hemorrhage which occurred in 1931. There is no evidence of portal obstruction.

In addition to other causes of bleeding, the differential diagnosis naturally includes a consideration of masses having a similar appearance. Hematoma is characterized by a history of injury and an extravascular clot with infiltration of the tissues. Prolapse of the urethra may cause a protruding mass but the urethra is found to traverse the mass, although not necessarily the center. Malignant tumors in this region, chiefly carcinomata, are unusual and benign tumors are rare but are to be considered. Microscopic examination is necessary for diagnosis in these cases.

PEPTIC ULCER X-RAY A-B-C'S

Aims of the routine examination for peptic ulcer are
(1) Demonstration and location of the lesion,
(2) Character and size of the lesion,
(3) Progress or healing of an established lesion.

Both radiography and fluoroscopy must be used to accomplish these aims: radiography for study of details and purposes of record and comparison; fluoroscopy for observation of peristalsis and motor phenomena.

Classification of ulcers roentgenologically is usually a fusion process: from the pathologist we borrow terms like "shallow" or "mucosal," "penetrating" and "perforating;" for the clinician's benefit our reports mention obstruction and other clinical features.

Direct and indirect signs for the basis of our diagnosis; direct: ulcer niche (crater), accessory pocket, organic hour-glass, cicatricial deformities; indirect: incisurae, spasms (cardio-, gastro-, pyloro-), changes in peristalsis and motility, barium retention, tenderness, etc.

Etiology lies outside the scope of roentgenologic examination.

Frequency figures are interesting. The ratio of esophageal, gastric and duodenal ulcers is about 1:30:180.

Generally, esophageal ulcers are shallow and cannot be visualized directly. Gastric and jejunal ulcers usually exhibit more direct signs. All pathological and roentgenological varieties are seen in the duodenum where 95 per cent of all ulcers occur in the bulb.

Historically, the highlights in the evolution of ulcer diagnosis are:
(1) Introduction of the barium meal (1904),
(2) Discovery of the gastric niche (1910),
(3) Visualization of duodenal ulceration (1910),
(4) Outlining of mucosal relief (1925).

In accuracy, x-ray diagnosis has reached a stage where a peptic ulcer can be definitely determined and localized in 90 to 99 per cent of all cases.

Jejunal ulcers show—besides evidence of surgical intervention and high percentage of niches—"puckering" of gastric stoma, frequent stenosis, localized tenderness and, in about 11 per cent, gastro-jejuno-colic fistula.

Know your antispasmodics (atropin, etc.) for the checking of spasm. Use them effectively; time them correctly; avoid incompatibilities.

Location of the ulcer is very important not only for the surgeon but also for the diagnosis of malignancy.

Malignancy is described as a sequela of gastric ulcer, especially of those outside the midsection of the smaller curvature and of craters with over 2 cm. diameter. Roentgenologically, Carman's "meniscus sign" is considered pathognomonic.

Niches can be demonstrated in about 50 per cent of gastric ulcers, in about 75 per cent of jejunal ulcers and, by relief-compression technic, in about 55 per cent of duodenal ulcers.

Occasionally, x-ray findings are at variance with operative or autopsy findings. One reason: barium cannot outline the soft tissue involvement. Another reason: Anesthesia and death eliminate all spastic disturbances with which the roentgenologist must cope.

"Pine-trees" and "shamrocks" may conjure romantic memories in the reader's mind. To the x-ray man they mean—like "Cole's defect" and "Ackerlund's deformity"—just typical duodenal ulcer deformities.

Quiescence of symptoms is often entirely disproved as a sign of cure by roentgenology.

Relief outlining of the mucosal rugae has markedly improved results but requires much patience and even more experience.

"Skipping" of peristalsis is a very valuable sign in ulcer diagnosis.

Time, age, and response to treatment are important factors for the differentiation of ulcer and cancer.

Unfortunately, the determination of ulcer cure is very difficult.

Visualization of healing depends on many vaguely defined changes. The indirect (spastic, etc.) signs should disappear; the direct signs (niche, etc.) may disappear or persist due to fibrosis and scar formation.

When all is said, and no matter how skeptical you may be about things printed in medical magazines,

X-rays are indispensable for present day medicine and surgery, and

You will admit that no examination for peptic ulcer can be considered final without the use of x-ray, and that it is

Zimply impossible to cover this subject intelligently in two columns of "Colorado Medicine."

E.A.S.

PUBLIC HEALTH NOTES

New Disease Discovered

Discovery of a new disease and progress already made toward its prevention are announced simultaneously by two physicians in the United States government service. The malady, which has appeared in isolated instances in a number of states, has features resembling meningitis, infantile paralysis and epidemic encephalitis, or sleeping sickness. Pronouncing it a new disease, Dr. Charles Armstrong, of the U. S. Public Health Service, and Lieutenant-Commander Paul F. Dickens, of the Navy Medical Corps, suggest the scientific name "acute lymphocytic chorio-meningitis" for it. The agent causing the disease is found by the two physicians to be a filterable virus.

Cases of this disease have been reported in California, Maryland, District of Columbia, Illinois, Ohio, and Virginia. The disease runs its course in ten days to two weeks, and recovery is complete without paralysis or other effects.

Monkeys, mice, and guinea pigs are susceptible to the virus causing the malady, and the two physicians suggest that "a reservoir of the disease may exist in animals."

Tests show that a blood serum of patients who have recovered serves to protect experimental animals from the virus. The serum has not yet been used in human patients to test its power to forestall development of the disease.—The Diplomate, Dec., 1935.

Scarlet Fever and Erysipelas Thought Caused by Different Types of Streptococcus

Scarlet Fever and erysipelas are probably each caused by a distinct and different type of streptococcus, in the opinion of Dr. Ludwig Hektoen, of Chicago, who spoke before the meeting of the American and Canadian Medical Associations. The problem is one of the unsettled questions of bacteriology.

Skin tests made by Drs. George and Gladys Dick, of Chicago, show that some persons give a positive reaction to scarlet fever toxin, but not to that of erysipelas, and vice versa.

These findings were quoted by Doctor Hektoen in support of his view that the two diseases are caused by two different types of streptococci.—The Diplomate, Dec., 1935.

LIST OF CONTAGIOUS AND REPORTABLE DISEASES

Reported to State Board of Health by City and County Health Officers in Colorado During the Year 1935

Angina (Vincent's)	54
Cancer	6
Chickenpox	3,432
Diphtheria	448
Diphtheria carriers	185
Erysipelas	199
Epidemic Encephalitis	8
Impetigo	53
Influenza	47
Jaundice	2
Malaria	2
Measles	16,579
Meningococcus meningitis	49
Mumps	1,822
Pneumonia (all forms)	167
Poliomyelitis	22
Rocky Mt. Spotted and Colo. Tick Fever	27
Scarlet Fever	7,861
Septic Sore Throat	14
Smallpox	209
Tetanus	1
Trachoma	2
Tuberculosis (all forms)	707
Tularemia	2
Typhoid and paratyphoid fever	106
Undulant fever	1
Whooping cough	750

LIBRARY NOTES

Books Purchased From the Colorado State Medical Society Fund, Dec. 1, 1935, to Feb. 1, 1936

American Medical Association. Glandular Physiology and Therapy; a Symposium Prepared Under the Auspices of the Council on Pharmacy and Chemistry of the American Medical Association, 1935.

Bridges, M. A. Food and Beverage Analyses. 1935.

Livingston, W. K. The Clinical Aspects of Visceral Neurology. 1935.

Peters, J. P. Body Water, the Exchange of Fluids in Man. 1935.

Present Status of the Problem of "Rheumatism;" a Review of Recent American and English Literature on "Rheumatism" and Arthritis. 1935.

Second Symposium on Silicosis; an Unofficial Transcript of the Second Silicosis Symposium Held in Connection with the Trudeau School of Tuberculosis at Saranac Lake, N. Y., June 3 to 7, 1935.

Whitman, Royal. A Treatise on Orthopedic Surgery. 1930.

BOOK REVIEWS

Doctors and Juries. The Essentials of Medical Jurisprudence. By Humphreys Springstun of The Detroit Bar. Philadelphia: P. Blakiston's Son & Company, Inc., 1012 Walnut Street. Price $2.00.

A brief, concise and simplified presentation of medical jurisprudence.

The book deals principally with malpractice suits, the testimony of the expert appertaining thereto and the ethics and jurisprudence concerned.

However, there are some chapters devoted to medical testimony in general and the conduct of the physician on the witness stand. It deftly explains the legal aspects of insanity in general in relationship to crime, wills, and contracts.

Withal its reading is an hour well spent, refreshing one's memory on medical jurisprudence, as well as absorbing some well-directed hints on the physician's conduct in court.

EDWARD DELEHANTY.

Silas Weir Mitchell, the Versatile Physician. By Nolie Mumey, M.D. 201 pages, 17 illustrations. Denver, Colorado: The Range Press, 1934. Limited edition of 100 copies for sale by the May Company in Denver. Price $2.50.

Dr. Nolie Mumey, that very enterprising, ingenious, and energetic member of the Colorado State Medical Society, has published in book form the series of articles on Weir Mitchell that in recent months appeared in Colorado Medicine, the official journal of the Colorado State Medical Society. The book is well written, well made and liberally illustrated, contains numerous quotations from the poetry of the distinguished physician Weir Mitchell, and includes a very valuable bibliography in the following sections: Books, Medical and Scientific Articles, Literary Articles, Poems. A valuable list of source books consulted and a reference list of photographs and portraits are also appended, as well as a satisfactory index. On the inside of the front cover is pasted an envelope containing a facsimile of a letter by Dr. Mitchell. It would have been better if the envelope had been inserted in the back instead of the front, since its present location interferes with the use of a book plate.

Dr. Mumey has evidently made a very exhaustive study of Dr. Mitchell and, indeed, has a noteworthy collection of the works of Dr. Mitchell in his own library. He deserves the highest praise for this latest addition to a mounting list of publications. It is interesting that Dr. Mumey refers to Dr. S. Weir Mitchell as the versatile physician. Dr. Mumey himself has shown amazing versatility. He is author and printer, photographer, sculptor, aviator, surgeon, and is doubtless expert in other fields. (The reviewer suspects him of playing the flute.)

A few errors may be noted; on page 37 "nitrate of amyl" instead of nitrite of amyl. The same mistake occurs in the bibliography on page 142. The footnote on page 37 gives the American Journal of Medical Science, April, 1869, as the reference for the paper on the use of nitrite of amyl on epilepsy. This paper is not to be found in the April, 1869, number of this journal. Osler's famous "cherry pie" incident is quoted on page 52 incorrectly, both as to phraseology and typography. On page 147 the reference "On Free Removal," etc., contains three typographical errors and, furthermore, the article is not by Weir Mitchell but by a British surgeon, by name W. Mitchell Banks. Page 156 "eosophaegeal," page page 160, "heamolysis," page 161 "oa" instead of "on," page 154 "phychic" (error repeated three times). These are, after all, trifling flaws in a otherwise highly commendable work.

JAMES J. WARING, M.D.

Clinical Diagnosis by Laboratory Methods. By James Campbell Todd, Ph.B., M.D., Late Professor of Clinical Pathology, University of Colorado, School of Medicine; and Arthur Hawley Sanford, A.M., M.D., Professor of Clinical Pathology, University of Minnesota (The Mayo Foundation); Head of Section on Clinical Laboratories, Mayo Clinic. Eighth Edition, Thoroughly Revised. 792 pages with 370 illustrations, 29 in colors. Philadelphia and London: W. B. Saunders Company, 1935. Cloth, $6.00 net.

There are very few medical books in the English language better known to the student of medicine than is this volume. This is particularly true of Colorado and the West. For Todd's book during these years has helped to bring before the profession at large the fact that a high type of medical man resided in the Rocky Mountain region.

It is quite evident that the revision by Dr. Sanford has been more extensive than in any since the fifth edition. But the general style still remains that of Todd's, so well known to past students.

There is considerable rearrangement of some of the subject material—all animal parasites in one chapter, blood cultures under bacteriologic procedures are a few of the changes from the old order. Much new material is present. Felix-Weil test, M and N agglutinogen tests for paternity, the Kline and Hinton flocculation tests, also the heterophilic antibody test. Many new illustrations replace some of those in the previous edition, or are added as new material.

This appearance of a new edition of an old standard volume should be most welcome. For certainly this book can be recommended as highly as were past editions. E. R. MUGRAGE.

AMERICAN ASSOCIATION FOR THE STUDY OF GOITER

The American Association for the Study of Goiter again offers the Van Meter Prize award of $300.00 and two honorable mentions for the best essays submitted on the goiter problem. This award will be made at the discretion of the Society at its next annual meeting to be held in Chicago, Illinois, on June 8, 9, and 10.

The competing manuscripts, which should not exceed 3000 words in length, must be presented in English and a typewritten double spaced copy sent to the Corresponding Secretary, Dr. W. Blair Mosser, 133 Biddle Street, Kane, Pennsylvania, not later than March 1, 1936.

The Committee who will review the manscripts is composed of men well known in the fields of research and clinical investigation of problems related to the thyroid gland. This Committee did not consider any of the manuscripts submitted at the last annual meeting to be of a calibre to justify the award, and consequently the award of the year 1935 was withheld by the Association.

The Association will publish the manuscript receiving the prize award in their annual proceedings, and reserve a place on the program of the annual meeting for presentation of the manuscript by the author, if it is possible for him to attend. This will not prevent its publication, however, in any journal selected by the author.

Medical Organization

Facts Concerning Social Security Act

FOR information of all members of the State Society, the Advisory Committee to the State Board of Health directs that the following material be published in full. The letter to the Executive Secretary of the Society from Dr. M. F. Haralson, Surgeon, United States Public Health Service, who is the Acting Secretary of the State Board for the current year, is self-explanatory.

As rapidly as further information is obtained by the Committee, it will be published suitably in these columns.

Mr. Harvey Sethman, Secretary,
Colorado State Medical Society,
Denver, Colorado.

Dear Mr. Sethman:

I transmit herewith copy of **"Regulations Governing Allotments and Payments to States from Funds Appropriated Under the Provisions of Section 601, Social Security Act, for the Fiscal Year 1936"**, which have been prepared by the Surgeon General, U. S. Public Health Service. These regulations cover the method of apportionment of funds, the appropriation of which is authorized by the Social Security Act, for public health work.

Following the regulations is a table showing the amounts the State of Colorado may be eligible to receive provided funds authorized under the Act are appropriated by Congress, and the State Health Department is able to comply with certain specified minimum requirements.

Any publicity you feel justified in giving to these regulations through the medium of Colorado Medicine will, I am sure, be of interest to the medical profession of the state. It will be appreciated if a statement is made in Colorado Medicine to the effect that the State Board of Health will be glad to have inquiries from physicians who may desire to enter the field of public health on a full-time basis.

Respectfully,
M. F. HARALSON,
Acting Secretary.

Regulations governing allotments and payments to states from funds appropriated under the provisions of Section 601, Social Security Act, for the fiscal year 1936:

I. Allotments

Allotments will be made to the states* on the basis of (1) population. (2) special health problems, (3) financial needs, as provided in the Social Security Act of August 14, 1935, as follows:

A. Population
Allotments will be made to the several states on a per capita basis, amounting to 57½% of the total sum available for the fiscal year 1936.

B. Special health problems.
Allotments will be made to the several states on the basis of special health problems, including training of personnel, amounting to 22½% of the total sum available for the fiscal year 1936.

C. Financial needs.
Allotments will be made to the several states on the basis of financial need amounting to 20% of the total sum available for the fiscal year 1936.

II. Submission of Plans and Budgets.

1. To be eligible to receive payments from allotments each state shall present a comprehensive statement of the present organization program and budget for state health work within the state, together with a proposed plan for strengthening or improving the administrative function of the state department of health and for administration of local health service. The Public Health Service will issue a memorandum as to standards of organization and qualifications of personnel recommended by the Conference of State and Territorial Health Officers.

2. Before payments shall be made to any state, the state health officer shall submit to the Public Health Service a proposed budget for each project, showing the distribution of funds from all sources and the items required from the Public Health Service for the period ending June 30, 1936. (Budget forms will be supplied by the Public Health Service and instructions will be issued as to details of preparation.)

III. Payments for Allotments

In order that the funds allotted to the states may be of the maximum use in assisting states, counties, health districts, and other political subdivisions of the states in establishing and maintaining adequate public health service, payments will be made to states only in accordance with the following provisions:

1. Payments not to replace existing appropriations.

A. Payments to aid existing state or local projects will be supplemental to funds now being expended and in no case will serve to replace existing state or local appropriations for the purpose of relieving state or local authorities from expenditures now being made.

2. Payments to states on the basis of population.[1]

A. One-half of the amount allotted to each state on the basis of population shall be available for payment when evenly matched (dollar for dollar) by existing appropriations of public funds expended within the state for public health work; the remainder shall be available for payment when evenly matched (dollar for dollar) by new appropriations of public funds for health purposes within the state made since January 1, 1935, or made prior to that date for the specific purpose of matching funds to become available under the provisions of the Social Security Act. However, the Surgeon General may, in his discretion, modify the requirement with respect to new appropriations for subsidizing local health work; provided, that credit for existing appropriations not otherwise used for matching shall be allowed only for state appropriations for local health work and not to exceed 50% of that portion of the allotment to be matched by new money.

3. Payments on the basis of special health problems.

A. Special health needs
For this purpose there shall be available for allotment 10% of the total sum available for allotment to the several states in the fiscal year 1936. In the allotment of these funds the word "needs" shall be interpreted to mean necessity arising out of high morbidity or mortality on a state-wide basis from particular causes, such as malaria, hook worm bubonic plague, trachoma, typhus fever, special industrial hazards and similar geographically limited diseases or other conditions that result in inequality of exposure to public health hazards among the states.

Payments from allotments from this fund are to be matched in the same manner as payments from the fund to be allotted on the basis of population.

B. Training of personnel.

In order that there may be established promptly a reserve of properly qualified technical personnel with which to strengthen or enlarge staffs of the state and local health services, 12½% of the total sum available for the fiscal year 1936, shall be set aside and employed for payment as follows:

(a) To establish or strengthen suitable training centers.

(b) To pay living stipends, tuition and traveling expenses of the trainees who may be nominated by the state and territorial health officers.

The Public Health Service will arrange for the necessary teaching centers and provide through payments to the states the necessary additions to the teaching facilities of such centers. It will also issue a memorandum as to the qualifications of each class of trainers to be nominated by the state authority, and fix the allowances for stipends, travel and other items of expense to be met from this fund for training personnel.

Payments from this fund will be in accordance with the needs of the several states and will not be required to be matched.

4. Payments on the basis of financial need.

A. Flat allotment.

Five per cent of the total amount available for allotment to the several states in the fiscal year 1936, shall be made available for payments to the fifty-one state and territorial health jurisdictions to which the Act applies. The funds thus to be allotted and paid are to assist the state or territorial health departments in providing the leadership and administrative guidance necessary for the effective use of federal aid.

Payments from this fund will not be required to be matched.

B. Equalization fund.

In addition to the fund for the foregoing flat allotment there shall be an equalization fund of 15% of the total sum available for allotment to the several states in the fiscal year 1936, for aiding the states least able to provide funds for health services. Payments from this fund, which shall be expended exclusively for local health services, shall not be required to be matched. The fund available for payment shall be distributed among the states most urgently in need of financial assistance, the need being determined on the basis of the financial ability of the state as expressed indirectly in terms of per capita income.

IV. Method of Payment to States.

Payments to the states shall be made in such installments and at such times as the Secretary of the Treasury may direct to the Treasurer of the state or other state official authorized by law to receive such funds. All such funds shall be held by the state official to whom paid in a separate fund distinct from other state funds, and shall be expended by him solely for the purpose or purposes specified.

The Treasurer of each state or other state official receiving an allotment or installment thereof or other state official charged with the responsibility for administering the expenditure of the funds allotted shall render to the Surgeon General of the Public Health Service such financial reports as he may require, showing obligations, expenditures and balances.

Unobligated balances as of the close of business on June 30 of each year shall be paid to the Treasurer of the United States through the medium of checks or other bankable remittances payable to the Treasurer of the United States and transmitted to the Surgeon general of the Public Health Service by whom the remittances will be deposited in the Treasury of the United States; as to unobligated balances remaining on completion of any project during the federal fiscal year (July 1-June 30) the same procedure shall be followed unless the Surgeon General of the Public Health Service, with the approval of the Secretary of the Treasury, shall have permitted such balances to be used for other projects within the state. Unobligated balances of allotments made on a quarterly or monthly basis will be available for expenditure in succeeding months or quarters except that balances as of June 30 shall not be carried over but shall revert to the Treasurer of the United States.

V. Reports.

A consolidated quarterly financial statement will be required from each state or territory to which federal funds have been allotted and paid by the Public Health Service. This report, which shall be prepared on forms supplied by the Public Health Service, will show the amount and distribution of federal funds actually expended, together with a statement as to the actual expenditure and distribution of state and local funds, for each quarter. In addition quarterly reports will be required from state and territorial health departments to the Public Health Service for each state and local project undertaken.

[1]1930 Census.

*"State" or "States" as used in these regulations include the Territories of Alaska and Hawaii and the District of Columbia.

Basis of Allotment to Colorado From Funds to Be Appropriated Under the Provisions of Section 601, Social Security Act, for Fiscal Year 1936*

Allocation on Basis of Population			Allocation on Basis of Special Health Problems			Allocation on Basis of Financial Needs	
			Special Health Needs				
State—	To be matched by existing funds	To be matched with new money	To be matched by existing funds	To be matched with new money	Training and reserve personnel	Flat Allotment	Equalization Fund
TOTAL	$2,300,000	$2,300,000	$400,000	$400,000	$1,000,000	$400,000	$1,200,000
Colorado	19,337	19,337	8,750	8,750	To be allotted later on the basis of needs of each state	7,843	7,164

*The figures given represent the amount each state would have received from an appropriation of $8,000,000 for the entire year. Such amount as may be appropriated will be allotted in proportion to the amounts shown.

Societies Endorse Hospital Administration

ADMINISTRATION of the Colorado State Hospital at Pueblo, which has recently been criticized by an investigating committee appointed by Governor Johnson at the behest of labor organizations, is given a strong vote of confidence by the Pueblo County Medical Society and by the Colorado Neurological Society, in communications recently forwarded to the governor.

Following is the resolution adopted unanimously by the Pueblo County Medical Society and sent to Governor Johnson over the signature of all members:

"Inasmuch as a report has been made concerning the administration of the State Hospital, we, the members of the Pueblo County Medical Society, hereby extend an unanimous vote of confidence and approval for the superintendent and his assistants. It is the belief of the Pueblo County Medical Society that the criticism is unfounded and that the hospital now is functioning better than at any time in the past."

Over the signature of Dr. E. J. Delehanty, Secretary, the following comes from the Neurological Society:

"It is recognized by the Colorado Neurological Society that a most difficult labor situation has arisen at the Colorado State Hospital at the present time, and that this state of affairs has brought unfavorable publicity and criticism upon the superintendent, Dr. F. H. Zimmerman, which we feel is unjust.

"It is further recognized that his task of administering the Hospital has been successfully accomplished in spite of the shortage of labor, curtailment of finances, and limited medical personnel.

"Therefore, be it resolved, that the Colorado Neurological Society unanimously indorse the administrative policies of Dr. F. H. Zimmerman, superintendent of the Colorado State Hospital.

"Further, be it resolved that the Society extend to the superintendent its appreciation for the manner in which the hospital has been conducted under his administration."

Further support of the administration of this institution is given in strong editorial comment by the Pueblo Chieftain and Star-Journal, the newspapers closest to the situation.

Have You Mailed That Postcard?

EARLY last month every member of the State Society received an urgent communication from the Committee on Scientific Work, in the form of a double return postcard questionnaire. The Committee wants to learn the desires of the membership regarding the Glenwood Springs program for next September.

Of the eleven hundred postcards sent out, 241 had been returned on January 20. The number should be larger. More returns are needed if the Committee is to know accurately what the Society wants.

Members who still have those postcards should fill them in and mail them at once, for the Committee must soon "close the polls" and make its compilation. Members' requests, as indicated on these cards, will determine the Annual Session program. It is trite to say "Do It Now," but if you wish your own vote counted in arranging the state meeting program, there is nothing else to say!

Get Reservations Early for A.M.A.

ALL indications point to a record Colorado attendance at the American Medical Association Annual Session, to be held May 11 to 15 in Kansas City. Other states will have big delegations, too. For those who delay too long, hotel reservations likely will be at a premium.

The Housing Committee for the Kansas City Session is already well organized. Details of rates, location of hotels, etc., are published frequently in the Journal A.M.A. Consult these pages if possible, and then write to Dr. Ira H. Lockwood, 300 East Twelfth Street, Kansas City, Missouri, who is chairman of the Housing Committee and will make the proper reservation.

Members will confer a favor on the officers of the State Society if they will notify the Executive Office of their intention to attend the Kansas City Session.

During the last months of Pasteur's life many letters came to him expressing hopes that he would study certain diseases for which prophylaxis was as yet unknown, and for which there was yet no specific treatment. One day he received these lines:

"You have done all the good a man could do on earth. If you will, you can surely find a remedy for the horrible disease called diphtheria. Our children, to whom we teach your name as that of a great benefactor, will owe their lives to you.—A Mother."

MEDICAL SOCIETIES

ARAPAHOE COUNTY

Moving pictures demonstrating Colle's Fractures and traumatic surgical procedures were shown at the regular meeting of the Society held December 30 at the Englewood High School. Dr. Gatewood C. Milligan was elected to membership in the Society, and officers were elected for 1936 as follows: Dr. W. S. Bennett, Elizabeth, president; H. B. Catron, Englewood, vice president; N. Paul Isbell, Englewood, secretary-treasurer; Hugh Lorimer, Byers, delegate, and N. Paul Isbell, Englewood, alternate-delegate.

* * *

DELTA COUNTY

Dr. Lee Bast delivered the paper of the evening on "Infections of the Respiratory Tract," at the regular meeting of the Society held December 27 in Dr. W. S. Cleland's office in Delta.

* * *

EL PASO COUNTY

An experiment worthy of study is being undertaken this year by the El Paso County Medical Society. At a meeting of the Executive Committee soon after the annual election of officers, it was decided that joint meetings of the county society and the staffs of the various hospitals in Colorado Springs would be held in place of separate meetings of these organizations.

The first of these meetings was held in Glockner Hospital and Sanatorium January 15, 1936, at which time an excellent paper on Peptic Ulcer was read by Dr. H. M. Powell. Following the paper there was a general discussion of this interesting subject. After the meeting the Sisters of the hospital served refreshments.

While sound judgment cannot be expressed as the result of only one such meeting, the vastly increased attendance has led members to believe that the experiment will prove successful.

* * *

LAS ANIMAS COUNTY

A symposium on tuberculosis formed the program of the December meeting of the Las Animas County Medical Society, held December 6 at the Mt. San Rafael Hospital. Dr. George A. Unfug of Pueblo discussed "The Roentgenological Aspect of Tuberculosis in Children," and Dr. John B. Crouch of Colorado Springs talked on "The Clinical Aspect of Adult Tuberculosis." Dr. W. W. King, Denver, President of the State Society, and Harvey Sethman, Executive Secretary, were present. Dr. King gave a very helpful and interesting talk on the advantages of ethical publicity for county societies. Mr. Sethman gave advance notice of the Midwinter Postgraduate Clinics and other news of the State Society. The symposium and talks were greatly enjoyed by all present.

J. G. ESPEY, JR.,
Secretary.

* * *

LARIMER COUNTY

Drs. Roy P. Forbes and Osgoode S. Philpott of Denver were guest speakers at the January meeting of the society, held at the Northern Hotel in Fort Collins. Dr. Forbes spoke on "Common Errors Made in Pediatric Diagnosis," and Dr. Philpott discussed "Commonly Missed Dermatological Diagnoses." A dinner preceded the meeting.

THAD C. BROWN,
Secretary.

* * *

NORTHEAST COLORADO

The annual meeting was held January 29 at the Sterling High School. An excellent dinner was served in the cafeteria of the high school, and the program was presented in the music room. A symposium team representing the State Society ably discussed the subject, "Cancer of the Female Genital Tract." The team members were Drs. Lyman W. Mason, gynecologist; Sanford Withers, radiologist, and C. B. Kingry, pathologist. Twenty-nine doctors and their wives were present at the dinner. Officers for 1936 were elected as follows: K. H. Beebe, president; A. B. Baker, vice president; E. P. Hummel, secretary-treasurer.

E. P. HUMMEL,
Secretary.

* * *

OTERO COUNTY

At the regular meeting in La Junta, December 12, a State Medical Society symposium team representing the Cancer Committee gave a program on "Cancer of the Female Genital Tract." Dr. Herbert A. Black of Pueblo discussed the symptoms, Dr. Josephine Dunlop, Pueblo, talked on the pathology, and Dr. B. E. Konwaler, Pueblo, discussed radiation therapy. Officers were elected at this meeting, and Dr. A. S. Hansen will occupy the presidential chair for 1936.

C. E. MORSE,
Secretary.

* * *

PUEBLO COUNTY

Members of the Society were guests of the Colorado State Hospital at a turkey dinner at the December 3 meeting. Following the dinner, a program on psychiatry was presented by members of the hospital staff. At the December 17 meeting, Dr. Paul M. Ireland presented a paper on "Sub-phrenic Inflammations."

J. M. WHITE,
Secretary.

* * *

WASHINGTON-YUMA

Dr. H. V. Kitzmiller of Wray was chosen president of the Society at the annual business meeting held January 7 at the Wray Hotel. Dr. J. H. Larson of Wray was elected vice president, and Dr. M. L. Crawford of Akron was re-elected secretary-treasurer.

WOMAN'S AUXILIARY

DENVER COUNTY

Mr. Carl Ph. Schwalb, Manager of Health, was the host to the members of the Denver County Woman's Auxiliary, at a lovely luncheon served at the Denver General Hospital on Monday, January 20. More than 100 attended this affair.

After luncheon, Mayor Stapleton, Dr. Dean, Dr. Gordon, and Mr. Schwalb spoke on the ways and means of the hospital, and their earnest desire to make Denver General one of the finest in the country.

Mrs. Douglas Macomber, president, in behalf of the members, graciously thanked our genial hosts for their hospitality.

Following this we were conducted by Dr. Gordon, Deputy Manager of Health, on a tour of inspection through the various departments of the hospital. This we found very interesting.

It is gratifying to know that our husbands are a major part of this charitable organization.

We were told by our hosts that we also are a part. Thus we were made to feel quite at home.

Among the out-of-town members were Mrs. C. A. Ringle of Greeley, state president, and Mrs. J. W. Fuqua, Weld County president.

The next regular meeting will be held the third Monday in February at the Nurses' Home. Mrs. Martin Herstrom will speak on Mexico City, Past and Present. This will be followed by Spanish musical selections.

MRS. W. C. WOODCOCK,
Chairman of Publicity.

THE AUXILIARY AND HYGEIA

Members of the Auxiliary throughout Colorado are becoming more and more interested in the health journal, "Hygeia," and in our work of acquainting people with this popular educational mouth-piece of the A. M. A. As wives of physicians, we feel the need of keeping abreast with the constant changes in the medical world. We also believe that anything we accomplish, however small, in furthering the work of creating a discriminating and correctly-informed public in health matters, is most worth while.

The promotion of "Hygeia" is a major project of our National Auxiliary and is undertaken as such in all units of our organization.

A county auxiliary may be proud of completing this year's activities, saying, "We have, through various means—speaking, exhibiting, donating subscriptions, or offering the magazine as an essay contest prize in schools—acquainted our teachers, nurses, dentists, health officers, women's clubs, P. T. A., libraries, and educational institutions with 'Hygeia.' And we have reminded our busy husbands to give 'Hygeia' a prominent place on the waiting room table."

In this way the Auxiliary is accomplishing an advance step toward spreading proper conceptions of medicine and health among people everywhere.

The traditional attitude of the medical profession against advertising and the opposition to any personal glorification has been a force for good and productive of keeping a decent dignity within the medical ranks, not deemed necessary in other callings. However, this habit of mind and usage has tended to keep the doctors too silent and has resulted in the lay public forming a dim and hazy idea of medical thought, its aims and ideals. This lack of understanding is in large measure responsible for the attitude of many of those who embrace strange and mysterious methods of healing and those who do not feel in sympathy with what they consider to be the real purposes of the doctors as a class.—Bulletin, Pierce County Medical Society.

It is axiomatic that nothing received for nothing is worth nothing . . . But on the other hand, there has been no time in the history of the country when true charity is more needed in medical work, as a patriotic and humanitarian obligation, than the present. It must be administered with care and thoughtfulness, with tact, and with a strict sense of its objective—helping others to help themselves—or a medical paternalistic empire will be created that eventually will undermine the finest things in medicine and react with untold losses to everybody concerned.—Jackson County Medical Journal, Kansas City, Mo.

DIRECTORY CORRECTIONS

Several additions and one deletion in the Denver section of the Directory of Members of the Colorado State Medical Society, which was issued last month as a supplement to the January issue of Colorado Medicine, are presented here.

These corrections are necessitated by delayed official reports from the Medical Society of the City and County of Denver which reached the Executive Office of the State Society on Jan. 6 and Jan. 14, but which were concerned with membership changes that occurred prior to Dec. 31, 1935, the date of the Directory.

The following names should be ADDED to the Denver list of active members in good standing on Dec. 31, 1935:

Name	Address	Telephone	Society
Bushell, Edward	312 Seventeenth Street	Keystone 0474	Denver
Chamberlain, R. S.	300 United Securities Bldg.	Franklin 2715	Denver
Cooper, Henry S.	524 Majestic Bldg.	Keystone 3431	Denver
LeFevre, H. W., Jr.	816 Republic Bldg.	Keystone 7411	Denver
Lincoln, C. L.	301 Majestic Bldg.	Tabor 1762	Denver
Meade, E. E.	527 Mack Bldg.	Main 1658	Denver
Roehrig, Karl F.	1260 Dexter Street	York 5008	Denver
Wolf, Julius A.	310 Republic Bldg.	Tabor 1416	Denver

The following name should be REMOVED from the Denver list of active members in good standing on Dec. 31, 1936:

Glenn, G. A.	4260 Tejon Street	Gallup 4500	Denver

Wyoming Section

FEBRUARY
1936

Editorial

Painting a Picture

A SNOW storm accompanied by zero temperature was covering the ground and shaking the window panes. Inside the home, doctor and his wife were spending a quiet winter evening reading and at times turning on the radio to hear some special program and the latest news broadcasts.

The home was not a large one, but comfortable and homelike. The doctor was just one of the average members of his profession such as you find in most of the Wyoming and Colorado towns outside of the larger centers of population. The good wife was enjoying the daily newspapers and late magazines. The doctor was reading Colorado Medicine. His hair had turned gray and he was in his sixties, yet he took a keen interest in not only his profession, but in the events of the busy world in which he worked. That day he had operated two cases of especial interest. An office full of grateful patients had been emptied and after a few after-dinner calls he had settled down for a peaceful evening at home. A late 'phone call was made to the hospital and the chief night nurse had reported that all was well.

As the evening passed on he finished his reading and, enjoying his pipe, began to review the day's work. There was nothing outstanding in the review—just the usual line of cases, and the patients were from all walks in our western life. Yet a smile of satisfaction played on the doctor's face as he pondered the condition of each case. He thought of the patients as they were when they first came to the office and of their present condition. The results were pleasing, not alone from the improvement, but also from the sense of satisfaction that came from the expressions, often not even spoken, but shown in the faces of his patients.

Thus the day drew to a close and with it rest, a trust in humanity, and a certain feeling of pride in the Medical Profession. This is a true picture of most of the western physicians. They seldom accumulate more than a comfortable sum to meet life's declining years. Their greatest fortune is the respect and love of their patients, yet such a life is worth while. E. W.

Corrections

THE following names should be added to the list of members as published in the December number of Colorado Medicine: Dr. C. Dana Carter, Thermopolis, and Dr. J. H. Holland, Evanston.

Second: It was not the fault of the printer, the proof reader, my office girl or anyone else except myself that the article entitled "Pay Your Dues" stated that the amount was $8.00. It should have read $7.50 per year. We beg your pardon! It only takes seven dollars and fifty cents for your membership for the Wyoming State Medical Society, including a subscription to Colorado Medicine. Some bargain! E. W.

There is no claim of perfection on the part of the profession for the present scheme of medical practice. Change is inevitable. Medicine has always adapted itself to the social and economic order in which it finds itself. This it can continue to do only if freed of politicalized regulation and control. There is no opposition on the part of the profession to the proper study and trial of experimental plans for medical care in changed form. But medicine will vigorously defend its personal rights which are ignored by lay workers who have nothing better to offer than state medicine.—The Journal of the Arkansas Medical Society.

TETANUS*

TREATMENT BY ANTITOXIN INTRACISTERNALLY

P. M. SCHUNK, M.D.
SHERIDAN

Considerable controversy exists concerning the comparative value of various methods of procedure in the treatment of tetanus. Opinions vary chiefly as to the best method of administration of antitoxin.

It is generally agreed that the disease is caused by a B. tetanus infection liberating a toxin which circulates in the blood stream, from which it is picked up by the motor nerve end plates and thence transmitted up the axis cylinders and perineural lymphatics until it reaches and becomes firmly fixed in the motor cells of the central nervous system, there causing irritative phenomena which result in tonic and clonic spasms. Death is due to asphyxia caused by spasm of the respiratory muscles.

Inasmuch as the purpose of tetanus antitoxin is to neutralize the liberated toxins, the question arises as to how this can best be accomplished. Wainwright states that intraspinal injections are harmful. Bates does not give serum intravenously because of the greater probability of anaphylactic shock than by intraspinal, intramuscular, or subcutaneous administration. Miller and Rogers use the intravenous route most often, then in order of frequency the intramuscular, intraspinal, and local routes. They state that patients without spinal injections do as well as those given serum intraspinally. Klemmer and Crosland report a 68 per cent mortality in those receiving serum intraspinally in conjunction with other methods of treatment, while for the remaining cases, including those receiving no serum whatsoever, the mortality was 58 per cent. Fantus recommends intrathecal injection only for severe cases, reserving cisternal injections for head injuries and questions the efficacy of the latter. Calvin and Goldberg report a 70 per cent mortality with, and a 56 per cent mortality without intrathecal injections, there being no decrease in mortality despite the ever increasing amounts of serum used. Boyce and McFetridge state that intraneural injections of the serum is the most logical method of fighting the toxin, but that the presence of toxin in the spinal fluid is not definitely established. Smith and Call report a case in which the spinal fluid became cloudy after the intraspinal administration of serum. No serious complications developed. They regarded it as a serum meningitis. Silverthorne and Hart report two cases with recovery in which tetanus antitoxin in 5 per cent glucose and normal saline was administered by the continuous intravenous route. They recommended that 20,000 to 70,000 units be given per half hour regardless of the total amount injected. They gave a ten-year-old boy a total of 2,867,500 units by this method, which is the largest amount administered to any one patient reported in the literature read. Taylor uses all routes of administration an sees no particular advantage of one over the other. Yodh cites work done by the British war office committee which indicates the greater effectiveness of intrathecal administration. He reports three groups of cases of his own. The first group received intramuscular and intravenous injections only, the mortality being 65.6 per cent. The second group received larger doses of serum intravenously and intramuscularly along with intraspinal injections, noting a mortality of 50 per cent. The remaining 112 cases were given antitoxin intracisternally, besides the other routes, with a mortality of 25 per cent. He concludes that cisternal puncture is more efficacious than the other methods because it reaches nearer the vital centers.

All authors agree on the importance of the care of the local wound. The wound should either be completely excised or all necrotic tissue removed and a complete exposure to the air should be made. Bates injects 2 or 3 per cent phenol around the wound and along the nerve trunks for sterilization. Cauterization of the wound is con-

*Read before the Wyoming State Medical Society at Lander, August 13, 1935.

traindicated because more necrotic tissue is formed in the process of healing.

Sedatives in liberal amounts are essential to relieve muscle spasm. Boyce and McFetridge favor avertin because of easy narcosis and its harmlessness in repeated doses. Phenobarbital, morphine, sodium amytal, chloral hydrate, paraldehyde, ether and chloroform anesthesia are recommended.

CASE REPORT

W. B., male, aged 20, was admitted to the hospital July 18, 1933. His family history was irrelevant. His past health had been good except that six weeks previously he had had an appendectomy done for acute appendicitis. He recovered from this rapidly and was working part time until July 15, 1933, when he crushed his right thumb in the endgate of a truck. He received the usual first aid treatment and had no further trouble until the evening of July 17, when he complained of pain in the thumb radiating up into his arm. On the morning of July 18, the muscles of his neck became rigid, the rigidity rapidly extending over his whole body.

Examination revealed total unconsciousness, a normally developed physique, extreme rigidity of all his voluntary muscles producing a marked opisthotonous. Breathing was labored and there was a moderate cyanosis. The right thumb showed evidence of a crushing injury. A hematoma had developed beneath the nail. The temperature was 100.2 degrees rectally, pulse 80, and respirations 24. Examination of the heart and lungs was negative. A catheterized urine specimen showed no abnormalities. A leucocyte count revealed 10,650 cells per cubic m.m. The spinal fluid was clear, showed 2 cells per cubic m.m. and a negative Nonne. A diagnosis was made of acute tetanus.

The thumb nail was removed as well as the underlying necrotic tissue and 10,000 units of tetanus antitoxin were given intravenously immediately. The rigidity and opisthotonous persisted in spite of morphine sulphate grains ¼ being given four times in six hours. Finally sodium amytal grains 7½ were given intravenously. The patient relaxed and breathing became less labored; the cyanosis decreased.

On July 19, 30,000 units of tetanus antitoxin were given intravenously and 10,000 intraspinally. Sodium amytal grains 7½ were given intravenously two times to control the spasms and opisthotonous. A serous and bloody discharge from the thumb developed. Finally 15 cubic centimeters of spinal fluid was drawn off by cisternal puncture and 10,000 units of tetanus antitoxin given by the same route. The spinal fluid was cloudy—evidence of serum meningitis following the intraspinal injection. The temperature reached 103 degrees.

After the intracisternal administration of serum, there seemed to be a very definite improvement in his condition. The temperature was lower, there was better relaxation, less labored breathing and less cyanosis. Spasms were completely controlled from this day on by giving sodium amytal grains 6 per rectum. On July 20, 30 cubic centimeters of spinal fluid were withdrawn and 20,000 units of antitoxin were administered intracisternally, along with 20,500 units intravenously. July 21, 10,000 units were given intracisternally. On July 22 he was fully conscious for the first time. He complained of a severe headache which was relieved by cisternal drainage. The only muscular rigidity remaining was confined to the neck. Antitoxin, 20,000 units, was given intravenously on this date. July 23, the cistern was again drained. Rigidity of the neck was gradually lessening. July 24, 20,000 units of antitoxin were given intravenously. July 25, there was a generalized muscular serum rash and a marked lymphadenopathy which disappeared in a few days. On July 26, the rigidity was still occasionally noticeable and 20,000 units were administered intravenously. A gradual convalescence followed, marked particularly by a generalized muscular tenderness and slow healing of the infected thumb by granulation. He left the hospital on August 15, 1933. A complete physical and neurological check-up on February 19, 1934, revealed no abnormalities.

Comment

A total of 170,500 units of antitetanic serum was given to this patient, 10,000 intraspinally, 40,000 intracisternally, and 120,500 intravenously. Definite improvement was noticeable only after the intracisternal administration of the serum. Previously the intraspinal and intravenous routes seemed to be of no avail.

To give the serum intracisternally the patient lies on his side in bed, while an assistant holds the head in as much of a flexed position as the muscle spasm will allow. The spinous process of the atlas is located by palpation. The spinal puncture needle is then inserted in the midline immediately dorsal to the spinous process of the atlas in the direction of the external auditory meatus. A sensation of passing through a membrane is felt on the needle as it passes into the cisterna magna. If the edge of the occipital bone is felt by the needle, it is directed a little more downward. The required amount of spinal fluid is allowed to drain out and the serum injected by the syringe container and suitable connections. This particular patient vomited after each cisternal puncture.

Besides demonstrating the probable value of the intracisternal administration of antitetanic serum, this case illustrates the great benefit to be derived from sodium amytal used intravenously to control the spasms. Morphine hypodermically and magnesium sulphate intramuscularly, repeatedly used, had no appreciable effect. After each injection of sodium amytal intravenously in doses of seven and one-half grains, there

was almost complete relaxation, breathing was easier and cyanosis decreased for a variable length of time. We believe death from asphyxiation would have been inevitable except for the use of this drug. As the patient improved rectal and oral administration was sufficient.

Conclusions

1. Local treatment of the wound and relief of muscle spasm is generally conceded to be of paramount importance in the treatment of tetanus.

2. Sodium amytal given intravenously is of great value in controlling muscle spasm.

3. Various opinions exist as to the most valuable route of administration of antitetanic serum.

4. A case is reported in which the intracisternal administration of serum seemed to be the deciding factor in combating the disease.

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Gladstone, besides achieving fame as a statesman, was quite as famous as a slow eater, antedating Fletcher in this respect. Each bite of food was chewed thirty-two times. How this affected his reputation as a dinner companion is not on record.

CASE REPORTS

JAUNDICE OF THE NEWBORN

WALTER S. RECKLING, M.D.
LUSK, WYO.

Most discussions of this condition mention that all cases are divided into two classes. One class is commonly seen in babies after the third day. Premature babies are very likely to have this condition. The second class is seen less frequently and is much more serious. It has for its cause such conditions as liver infection of the fetus in utero by the organism of syphilis, or umbilical infections acquired after birth, or by defects in the bile forming and conveying machinery. This unfortunate condition is listed under the terms "familial jaundice" and congenital abnormalities of the bile ducts.

From my lectures in pediatrics I assumed that these conditions mentioned were rare entities. In a series of approximately 700 new born babies, I have observed this condition twice. There were two other cases where this condition might have existed unrecognized. Both of these babies were premature births, became heavily jaundiced, and died before the end of the second week. One might expect abnormalities associated with premature births.

The two cases that I am reporting might be listed as a combination of familial jaundice and congenital abnormalities. One might assume these conditions to be one.

CASE NUMBER ONE

This baby was born of normal parents. The father is healthy, has no abnormal history or physical findings except a radical mastoidectomy done in early life. He has some discharge from this ear periodically. He holds a degree in engineering. The mother, aged 34, is in good health and nutrition with no abnormal conditions past or present other than that she had not become pregnant following her first pregnancy for a period of eight years. She had done nothing to prevent conception and was rather disgruntled because of her failure to conceive. During this time she had resorted to numerous attempts to relieve her apparent sterility. All manipulative measures proved futile. Her desire for motherhood was so great that she and her husband adopted a baby.

In some pseudo-scientific magazine she had read the effects of vaginal secretions in the problem of sterility. Thinking that a possible acidity of the vagina predisposed to her failure to conceive, she began to alkalinize herself with large doses of

soda and fruit juices. Imagine her ecstasy when she discovered that she had missed a period.

I observed her throughout the entire pregnancy with reference to her physical condition, and did regular readings on her blood pressure, weight, and urine analyses. Her weight gain from January 22 to July 22 was twenty-six and one-half pounds. Her blood pressure reading, systolic only, never exceeded 120. At no time were there any abnormalities observed in the urine examinations. Our calculations as to the actual time of gestation was eight and one-half months.

Her delivery was absolutely normal, actual pains did not last longer than two hours. For several days prior to labor she had one finger dilatation with seepage of amniotic fluid. She became slightly apprehensive about her condition, and we sought to stimulate pains by the use of quinine. The baby weighed eight and one-half pounds at birth, female; appearance was normal in every way. After eighteen hours the child began to show jaundice, exhibited a whiney cry, and became disinclined to take her food, gradually grew weaker, and died in seventy-two hours.

My request for an autopsy examination was gladly received by both parents, and the essential abnormalities found in this examination were fibrous cystic and common bile ducts. We were unable to pass a probe through either. The gall bladder itself was the size of an average almond and contained a clear mucin-like substance. Neither the stomach nor intestines contained any bile. A papilla was present in the duodenum at the point of common bile duct connection, but we were unable to pass any probe into it.

Inasmuch as these people were very much concerned about the case and its findings, I knew that they would ask this question, "Will another pregnancy mean the same thing?" I read all of my literature on the subject, consulted some of my pediatric friends, and received the general impression that a repetition would not necessarily recur. The second question the people asked me was this, "Had you been able to recognize this condition as a congenital abnormality would any type of surgery have availed anything?" I answered this question on the basis of what I would have expected with reference to shock, hemorrhage, and the inaccessibility of such small organs as present in an infant so small, that the hazards to surgery in this condition would be fatal.

CASE NUMBER TWO

In short order this mother became pregnant again. This pregnancy resembled the other very closely in every detail. The weight gain of the mother was less than twenty pounds. The blood pressure reading never exceeded 120, and there were no abnormalities found in any of the periodic urine examinations. This child, a boy weighing eight and one-half pounds, seemed apparently normal except for slight jaundiced tinge noticed at the time of birth.

I notified my friend and former teacher of pediatrics, Dr. F. P. Gengenbach of Denver, at once. His advice was to attempt no surgery, use supportive measures only, and see what the outcome might be. The baby died in less than forty-eight hours under conditions identical to the preceding one. We had felt at different times during the short life of this child that perhaps the degree of jaundice would not be that of a fatality, inasmuch as during one vomiting attack of the infant we noticed what we interpreted as a streak of bile in the vomitus.

The post mortem revealed no abnormality other than that the common bile duct was very small, not to exceed one-sixteenth inch in diameter. I did succeed in passing a small probe through the common duct almost to the papilla. The gall bladder was practically the same size as in the other infant, and contained a thin greenish mucoid substance. The cystic duct was apparently open. Above the junction of the common and the cystic duct there was a marked dilatation, estimated at one-eighth inch in diameter. Faint traces of bile appeared in the intestines. A portion of the jejunum was markedly distended with gas; otherwise the intestines were flat and spastic. These facts I stated to Dr. Gengenbach in a very detailed manner. His reply to me I quote:

"Many thanks for your detailed letter of August 15 telling me of the interesting cases in this one family. Of course, it is very evident that in both cases there were congenital defects which made it impossible for the babies to live. As I told you over the telephone, surgery in this case, while indicated as a last resort, has practically always and in my own experience always proved fatal. That is why I advised not attempting to bring the child immediately to Denver.

"Of course, we cannot tell whether a subsequent pregnancy would result in a similar condition. Naturally, the family would hesitate after two such tragic experiences, and yet, if the parents have a previously healthy child and greatly desire another one, I do not feel that it would necessarily be a repetition of the same condition at birth."

The parents were very much upset concerning this condition which had been present in two successive infants, and the father wrote to the doctor who had delivered their first child, Dr. A. G. McHenry of Monroe, La., asking for details concerning the jaundice of their first born. Dr. McHenry very kindly replied, stating that this child had developed a jaundice of quite marked intensity about the third day, had persisted for several days, but had totally cleared by the end of the second week.

The father of these two babies felt as if the explanation of the congenital abnormality might lie in the fact that the first baby was presumed to be a 10-month baby rather than the normal time of gestation. It seems as if their first born had been an overtime pregnancy. The facts of the matter I can not clearly state. The other two babies might be calculated as less than full-time pregnancies. This extra time period in the first pregnancy might explain the difference in the development of the bile conveying machinery. However, the first born had been subject to what has been commonly diagnosed as "bilious spells." For this condition he has received considerable sodium phosphate solutions with apparent benefit,

inasmuch as he has not now had one of these spells for two years.

Further investigation has revealed some "liver trouble" in the children's grandparents from the mother's side. The nature of this alleged trouble I am unable to state.

Another question might enter the consideration of these cases, "Is one justified in permitting this mother to have future pregnancies on the basis of past experience?" That question is one on which considerable disagreement might be present. I feel that such a procedure is unwise and that this mother should be spared the shock of such a tragedy.

Conclusion

1. Congenital abnormalities or closure of the bile ducts is a relatively rare condition. In this instance it showed a familial tendency.

2. It is invariably fatal, and surgery in this condition in new born infants avails nothing.

3. The tragedy of such experiences should be avoided.

WYOMING NEWS NOTES

At a December meeting of the Natrona County Medical Society the officers were elected for 1936. Dr. J. R. Nelson was elected president, Dr. George E. Baker, vice president, Dr. M. C. Keith, secretary-treasurer, Drs. George Smith, J. C. Kamp and H. E. Haymond as delegates and Drs. T. J. Riach, G. R. James, G. O. Beach as alternates.

The following article written by the secretary-treasurer, Dr. M. C. Keith, of the Natrona County Medical Society explains the successful method of handling the question of vaccinations:

A NEW DEAL

"In December a few scattered cases of diphtheria in Natrona County with two deaths caused an urgent need, and immediate demand, for vaccination in the public school of Casper. Coincident with the diphtheria there were reported cases of smallpox. A happy inspiration germinated in the County Medical Society and rapidly grew to fruition with the hearty cooperation of the County Health Officer, local physicians, Nurses' Association, school nurses, school authorities and other public spirited citizens.

"A committee of three from the County Society planned a campaign and carried it through successfully. Groups of physicians and nurses were assigned to each school on certain days to work without compensation. A minimum charge was made—fifty cents for diphtheria toxoid and twenty-five cents for smallpox vaccination. Those unable to pay this small sum were treated free. The campaign was an unqualified success. Reactions were few and none serious. Several adults developed abscesses at the joint of injection in spite of meticulous care in administration. These were of the cold "abscess" variety and cleared up in a few days after incision.

"No new cases of either disease followed. Physicians and public were well satisfied. After deducting all expenses incident to the campaign the Natrona County Medical Society was enriched by the sum of $704.72. This splendid public spirited work could well be emulated in other communities with gratifying results to both physicians and public."

M. C. K.

On the evening of January 6 the Laramie County Medical Society held election for 1936 with the results of Dr. H. L. Lucic as president, Dr. George H. Phelps as vice president, Dr. Sam S. Zuckerman as secretary, and Dr. W. R. Day as treasurer.

The Laramie County Medical Society members are enjoying themselves at informal luncheons each Friday noon at the Plains Hotel. Shop talk seems to be taboo with every other topic for discussion and relaxation as the prime objective.

The Sheridan County Medical Society at its meeting on December 10, elected the following officers for the year 1936: President, Dr. W. A. Steffen; vice president, Dr. S. W. Johnson; secretary-treasurer, Dr. C. L. Rogers; censor, three-year term, Dr. Earl Whedon.

The above listed officers were also elected to the respective offices as members of the staff of the Sheridan County Memorial Hospital.

Sir Frederick Banting relates that the crystallization of the idea of how the active principle of the isles of the pancreas might be extracted, occurred in the small hours of the morning after long wakefulness. At two o'clock he arose and entered the following in his notebook: "Ligate pancreatic ducts of dogs. Wait six to eight weeks for degeneration. Remove the residue and extract."

Science is occupied in the quest of truth. Were teachers of morals wise, they would seize upon scientific training as the basis of moral culture. Practical and daily companionship with the truth, as an essential partner in an enterprise, helps to make men honest. Habit is acquired by practicing honesty better than by fear of punishment or by hope of reward. Honesty can be made a tool that fits the hand, that serves, and is useful. One can adjust his life to honesty and make it his companion. Scientific training helps to this end.—Warbasse.

Colorado Hospitals FEBRUARY 1936

Editorial

Uniform Hospital Standards

THE Colorado State Board of Health in revising the rules and regulations pertaining to the licensing of hospitals, maternity homes, nursing homes and other institutions caring for the sick or convalescent has requested the cooperation of the Colorado State Hospital Association.

A committee from the association has met on several occasions with Dr. Haralson and will assist the State Board in every possible way.

It is to the interest of all members of the association, and all doctors practicing in Colorado's hospitals as well, to cooperate in this work in order to make hospital standards throughout the state as nearly uniform as possible. This will provide adequate facilities for the proper care of patients.

THE ADMINISTRATION OF THE NEW HYPNOTIC LAW AS IT AFFECTS COLORADO HOSPITALS*

ARTHUR D. BAKER
DENVER

The primary purpose is to outline the administration of the Colorado Hypnotic Drug Law, which was passed by our General Assembly this year. To present this matter properly, I wish to discuss briefly laws of this type in general.

You, as professional people in the health service of the state, know better than anyone else that the need for regulatory laws of this type is not because of the physicians themselves, but because of the abuse by their patients of certain types of drugs. Science in its march of progress discovers new remedies for the alleviation of pain and the elimination of disease, but as soon as the physician begins to utilize these new instruments on the patients, some of these patients, probably due to the desire to help the ills of their neighbors, which is inherent in us all. urge their neighbors to use the drug which has helped them. As a result, in the instance of drugs which are dangerous when not indicated because of a particular diagnosis, and because of the habit-forming nature of such drugs, regulation becomes necessary.

For example, in the years immediately preceding the passage in 1914 of the Federal Narcotic Drug Law, commonly known as the Harrison Narcotic Act, an enormous increase was noted in the number of people using morphine, cocaine and other derivatives of opium and coca leaves. The medical profession itself, realizing the value of these drugs when indicated, but the extremely pernicious influence on society at large of these same drugs when accessible freely to all, was largely instrumental in obtaining the passage of the Harrison Narcotic Act.

In like manner, the medical profession has cooperated in securing the passage of pharmacal laws so that the people of the various states would be protected as to the quality of drugs and medicines purchased by them and so that the prescriptions of the physicians would be properly and accurately filled. Similarly, the physicians in Colorado, realizing the fact that the use of hypnotic drugs, particularly those of the barbiturate family such as allonal and veronal, was approaching a dangerous point, caused the present Colorado Hypnotic Drug Law to be drafted and its passage sponsored by the

*Presented before the Colorado Hospital Association on Nov. 6, 1935. Mr. Baker is Secretary of the Colorado State Board of Pharmacy.



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MENTION COLORADO MEDICINE

Colorado State Medical Society. That is the real reason we have this law on our statute books today.

I am making the source of this law clear to you because the Colorado State Board of Pharmacy was named as the enforcement agency, and because of that fact many people have thought that the druggists of this state were responsible for this law. Such is not the case. The State Board of Pharmacy had plenty of work to do in properly enforcing the pharmacy laws and other laws previously placed under its jurisdiction, and placing the responsibility upon us for the enforcement of the Hypnotic Drug Law has increased our work at least 50 per cent. Besides having the pharmacists of the state to deal with, we now must work in conjunction with physicians, dentists, veterinarians, pharmaceutical wholesale houses, pharmaceutical manufacturing houses and men detailing hypnotic drugs. While dealing with this greatly increased number of professional and business men has brought us many pleasant contacts, it also has resulted in a veritable mass of correspondence. We really have a job on our hands, *and that without any increased revenue having been allotted to us*. Therefore, whatever you do, do not blame the Board of Pharmacy for the passage of this law.

However, the law is with us, and I think to stay, and while we have it the Board of Pharmacy intends to enforce it. The enforcement of a new law is a really difficult matter, not because the people affected by it necessarily wish or intend to violate it, but because many of them do not understand a new law. Our policy, therefore, has been one of education and cooperation and not one of prosecution or persecution. Prosecution will be resorted to only after these other measures fail, and from the cooperation received so far I do not believe that our plan of education and cooperation will fail.

Those of you who remember the time in the year 1914 when the Harrison Narcotic Drug Law went into operation may recall that a period of several years elapsed before it was ever adequately enforced. Still I do not believe there is a person sitting in this room who does not believe that the enforcement of the Harrison Narcot Drug Law was not a blessing to the people of the United States. I predict that in spite of the annoyances your compliance with our Hypnotic Drug Law will subject you to, that five years from now you would not be in favor of repealing it and eliminating the protection it gives the people it was designed to protect. In other words, we all known that this is a good law.

But you are primarily interested in hearing how the administration of this law will affect your own hospitals. To make this matter clear, I had first better explain the scope and object of our pharmacy laws, because these laws affect the hospitals materially. The pharmacy laws provide that no drugs, medicines or poisons shall be sold or dispensed except by or under the direct, immediate, and personal supervision of a registered pharmacist in a licensed pharmacy. The law then makes an exception that a physician may dispense drugs to his own patients when employed by them as such. This exception must not be construed, however, as permitting a physician to practice pharmacy generally. Only pharmacists and physicians may dispense drugs, and a physician only to his own patients when employed by them as such.

As I wrote to Doctor Andrew, your President, shortly after this Act became operative, there is a world of difference in the meaning of the terms "dispensing of drugs" and "administration of drugs." The dispensing of drugs means the act of any person in taking an order from a physician or other person either verbally or in writing, and going to the original drug container and removing medicine therefrom. The administration of drugs has a totally different meaning. If a physician takes an amytal tablet from the original bottle and intrusts it to a nurse to give to a patient, the physician is dispensing the drug and the nurse is administering the same. In like manner, if a prescription for a patient with written directions on the same is left in the custody of the nurse, the drugs in the prescription have been dispensed by the pharmacist and the further actions of the nurse involve merely administration. Please bear in mind

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that under our laws only a registered pharmacist in a licensed pharmacy may dispense drugs, and a physician may only dispense drugs to his own individual patients when employed by them as their physician, and that nurses or other persons are permitted only to administer drugs. The above consideration should make the matter of enforcement of this law and your compliance with this law thoroughly clear to you.

Of course, all laws regulating the sale of drugs involve the keeping of proper records, With reference to the hospitals affected by this law we are merely asking them to do what the druggists of the state have been required for years to do under the Harrison Narcotic Act, that is, to keep a tabulated record showing the name and quantity of hypnotic drugs purchases, the dates of purchase, and the name of the wholesale drug house from which purchased. In addition, a tabulated report of all drugs dispensed must be kept giving the date, the name of the patient, the amount dispensed, and the name of the drug or preparation. Recognition is given to orders written by the physician on the medication sheet of patients in hospitals. We consider such medication sheet orders to be the equivalent of a prescription written for a patient to be taken to a pharmacist to be filled. In other words, provided the daily order sheet gives the name of the patient, the date and the total amount of drugs or preparations given to each patient, a separate entry need not be made for each administration where such administration is given in a hospital.

In connection with the matter of compliance with the law, I have been surprised by the number of hospitals who reported that they are eligible to obtain a pharmacy license, many of them having employed a registered pharmacist for years without knowing there was such a thing as a licensed pharmacy. These institutions have expressed pleasure that they could become licensed pharmacies. On the other hand, a great many small hospitals will not be obliged to take out a pharmacy license because of the fact that the drugs administered to their patients by their nurses are administered only from prescriptions filled at a

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licensed pharmacy. Many other hospitals are institutions owned by physicians who treat only their own individual patients therein. These naturally will not be obliged to obtain a pharmacy license.

In conclusion I may state that in my opinion the time will come when the hospitals themselves will demand as a qualification for membership in their associations that each hospital shall, in addition to its other equipment and personnel, employ a registered pharmacist. I understand that your great national association already is advocating this requirement because it has found it materially increases the efficiency of the institutions.

This movement is a recognition of the higher educational standards required of men entering the pharmaceutical profession in Colorado. A candidate for examination for registered pharmacist must be a graduate from a four-year course of a college of pharmacy approved by this Board. Only colleges of pharmacy meeting the standards established by the American Association of Colleges of Pharmacy are recognized by the State Board of Pharmacy. This means that the only profession requiring higher educational qualifications than pharmacy today is the medical profession.

Regardless of what may occur in this respect, I want you to remember that our policy of enforcement, as I have stated before, is that of education and cooperation, and that we will be glad to consider your individual problems as they may arise, and assist you in working them out. I know that the enforcement of this law will be beneficial to the people of this state, but I further know that proper enforcement will be difficult unless we have the wholehearted cooperation of you all. I trust you will be able to get this point of view and give us your full cooperation.

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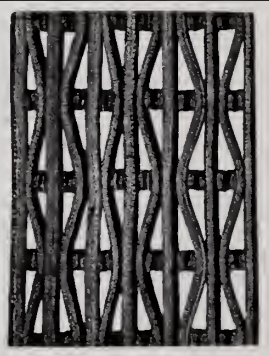
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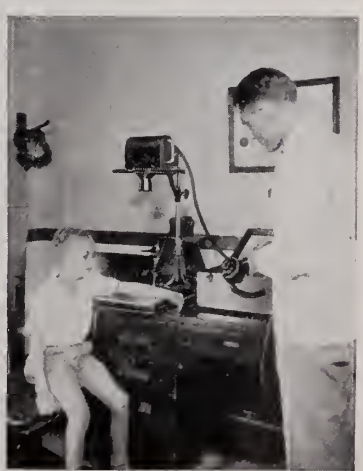
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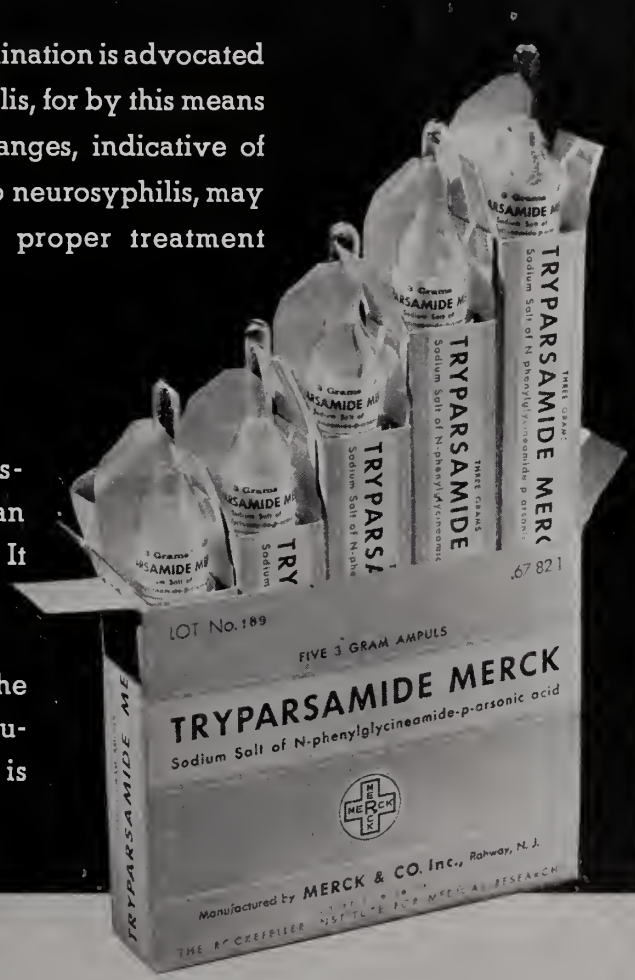
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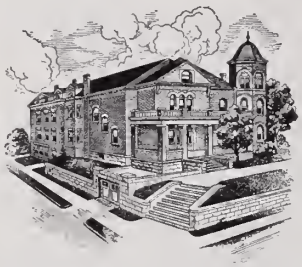
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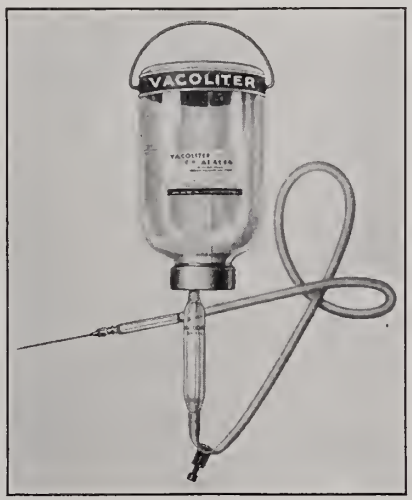
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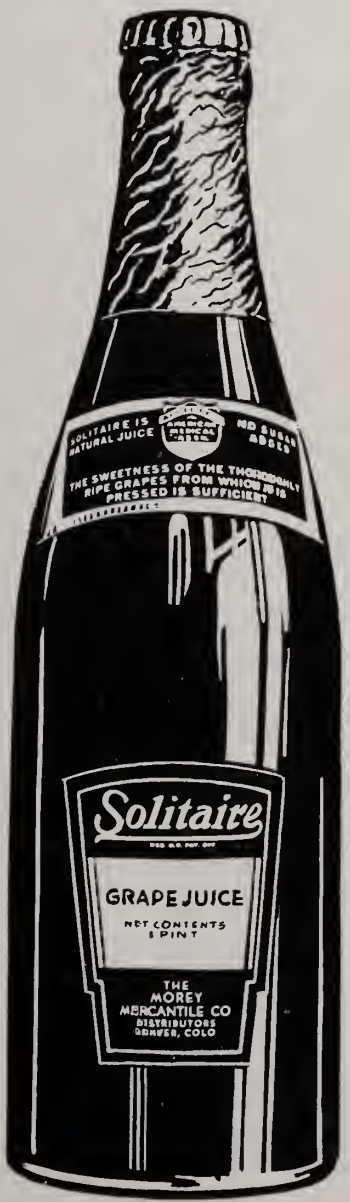


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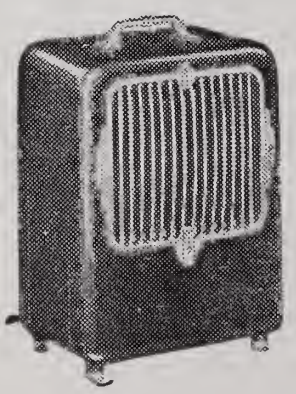
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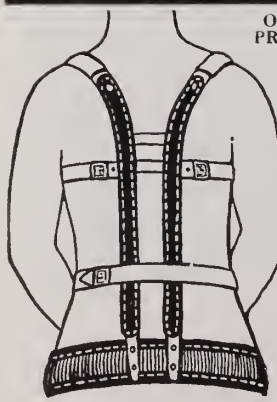
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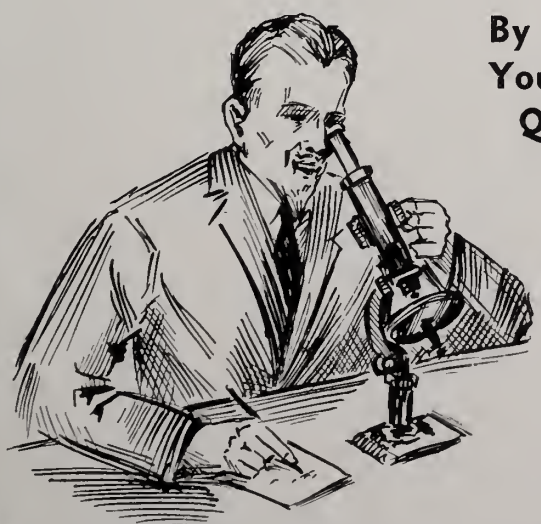
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Foods packed in plain or unenameled cans are, therefore, exposed to iron and tin surfaces. In enameled cans, foods are mainly in contact with inert lacquers baked onto the tin plate at high temperatures. However, because of minute abrasions in the enamel covering, unavoidably introduced during fabrication of the can, foods in enameled cans may also have limited contacts with iron and tin surfaces.

It is common knowledge that canned foods may acquire small amounts of these metals from contact with their containers. The acquisition of iron and tin salts in this manner is an electrochemical phenomenon (1); and the amounts of these metallic salts thus acquired will depend, among other factors, upon the character of the food. In general, the acid foods tend to take up more of these metals; especially when air is admitted after the can is opened. However, the quantities of tin or iron present in canned foods, as a result of reaction with the container, are small; the analytical chemist reports these amounts in "parts per million".

As far as iron is concerned, it is commonly accepted that the amounts of this element—recognized as essential in human nutrition—which may be present in canned foods, are innocuous.

As to the tin salts which may be present in canned foods, the Department of Agriculture has authorized the following statement as the result of its own investigation:

> "Our own experimental work, involving the ingestion of far larger amounts of tin than any previously reported, and supported by the experimental evidence of other investigators, leads us to the conclusion that tin, in the amounts ordinarily found in canned foods and in the quantity which would be ingested in the ordinary individual diet, is for all practical purposes, eliminated and is not productive of harmful effects to the consumer of canned foods." (2)

It may therefore be stated that the amounts of tin and iron salts normally present in commercially canned foods are without significance as far as possible hazard to consumer health is concerned.

AMERICAN CAN COMPANY

230 Park Avenue, New York City

(1) Kohman and Sanborn, Ind. Eng. Chem. 20, 76, 1373 (1928); ibid, 22, 615 (1930).

(2) "Food-Borne Infections and Intoxications", F.W.Tanner, Twin City Pub. Co., Champaign, Ill. 1935, p. 90.

This is the tenth in a series of monthly articles, which will summarize, for your convenience, the conclusions about canned foods which authorities in nutritional research have reached. We want to make this series valuable to you, and so we ask your help. Will you tell us on a post card addressed to the American Can Company, New York, N. Y., what phases of canned foods knowledge are of greatest interest to you? Your suggestions will determine the subject matter of future articles.

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The U. S. Pharmacopoeia (IX, 1916, and X, 1925) recognized cod liver oil as the oil from the livers of fishes of the family *Gadidae*. There being some 50 species in this family, in addition to the type species, *Gadus Morrhua*, our first studies were directed at the examination of the more important species classed as cod. It occurred to us that somewhere in nature there might exist a species, or a family, or an order of fish, the liver oil of which would make possible a mixture comparable with Oleum Morrhuae but higher in vitamin potency.

The study was then directed to other species. By 1927 we had quantitatively compared the antiricketic value of oils from 15 species of fish and 11 other oils and fats. This was the most extensive survey of vitamin D sources reported up to that time. Outstanding in this list was puffer fish liver oil with a vitamin potency 15 times that of cod liver oil. Puffer fish were not available in commercial amounts, but the fact that one species of fish yielded so high a vitamin store provided great stimulus to investigators.

We discovered that the potency of fish liver oils increases with the leanness of the livers. With this revelation, we began a survey of all available commercial fish, as well as of rarer species. Collectors were sent to distant continents and to the islands of the Pacific and Atlantic oceans. From ports which never before knew cold storage we arranged to obtain refrigerated livers for our experiments. This ichthyological survey was interrupted (1928) at the time we introduced activated ergosterol.

In 1929 the Norwegian investigator, Schmidt-Nielsen, reported halibut liver oil to be superior to cod in vitamin A. Upon investigating, we felt then, as we do now, that while halibut liver oil marked a distinct advance it left much to be desired since it was perforce an expensive source of vitamin D. Hence it came to be used chiefly to supply vitamin A as a vehicle for viosterol.

Continuing the search for fish liver oils, by 1934 our laboratory staff had made thousands of bioassays of oils from more than 100 species to determine their vitamin characteristics. The results, reported in scientific journals in January and April 1935, were the culmination of a search literally of the seven seas.

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Just as Oleum Morrhuae is a mixture of the liver oils of various cod species (cf. U.S.P. XI, 1935, p. 261) so Mead's Oleum Percomorphum is a mixture of the liver oils of various percomorph species.** The significant difference is that the improved product is 100 times as potent* in both vitamins A and D.

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REFERENCES:

Kugelmass, Clinical Nutrition in Infancy and Childhood, (Lippincott).
Marriott, Infant Nutrition, (Mosby).
McLean & Fales, Scientific Feeding in Infancy, (Lea & Febiger).

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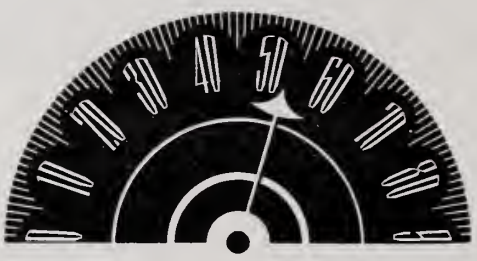
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Coronary sclerosis is prevalent among older diabetic patients and it has been suggested that all diabetics over fifty years of age be treated as potential heart cases. Since an adequate blood-sugar level may be essential to cardiac nutrition, when Insulin is given in such cases there should be ample "coverage" with carbohydrate.

Iletin (Insulin, Lilly), the first Insulin commercially available in the United States, is supplied through the drug trade in 5-cc. and 10-cc. vials.

Prompt Attention Given to Professional Inquiries

PRINCIPAL OFFICES AND LABORATORIES, INDIANAPOLIS, INDIANA, U. S. A.

Colorado Medicine MARCH 1936

Editorial

Just About This Time of Year—

It seems to be in order to remind some of us that annual dues to County and State Society became delinquent on March 1. So if yours aren't paid yet, why not send them to your county secretary right now, and then remember to deduct them when you make out that last-minute income tax report next week?

Protamine Insulinate

Articles appearing in medical journals and the lay press tend to give the impression that we are soon to have a new and better insulin. This is based upon the work of Doctor H. C. Hagedorn and his associates carried on in the Steno Memorial Hospital, Copenhagen. Already the Joslin group of clinicians of the New England Deaconess Hospital, Boston, have confirmed the conclusions of the discoverer and Eli Lilly and Company have prepared a limited supply for the purpose of a more general clinical assay. The product is now in the hands of diabetitians and internists who are in positions to evaluate its clinical usefulness. There is little doubt that the original claims of Doctor Hagedorn will again be confirmed. But in order that we may be spared disillusionment, it may be of value to restate just what claims have been established.

Protamine insulinate is a compound of protamine and insulin which is sparingly soluble when injected under the skin. It, therefore, gives insulin effects but gives them more slowly and for a more protracted period. Its action terminates in fourteen to sixteen hours. This slower action obviates the following two objectionable features in the use of ordinary insulin. First, the absorption is so fast that hypoglycemic states sometimes occur even though adequate and accurate dosage has been prescribed. Second, because of this rapid absorption, insulin effect disappears in about eight hours after its injection. These objectionable actions of insulin occur only in severe or "brittle" cases of diabetes in which morning glycosuria and hyperglycemia cannot be prevented by the evening injection even though the dosage is sufficient to induce hypoglycemic shock. Therefore insulinate seems to have a definite clinical value, but its use will probably be limited to the type of case just mentioned.

While it has been suggested that the potency of insulinate is slightly greater than insulin, yet because of the expense of the protamine it is likely to be a less economical product. Its injection is slightly more painful than insulin and its stability and nontoxicity over a period of weeks or months is not yet established.

It must be given parenterally.

C. F. K.

Not Guilty— By Reason of Insanity

The plea of not guilty by reason of insanity, especially temporary insanity, is appearing more and more often in trials involving homicide. As a result, medico-legal expert is often arrayed against medica-legal expert, and the public can scarcely escape being impressed both by the flexibility and by the penalty-saving qualities of the plea.

Unquestionably, our present legal procedures and statutes are wholly inadequate in dealing with insanity as a defense. A person is considered sane if (1) he can distinguish between right and wrong and (2) if he can refrain from doing wrong—that is, if he is not controlled by an irresistable impulse. While it is often difficult to determine the former, it is practically impossible to interprete the latter accurately in many

cases. Because of this, the plea of temporary insanity is constantly abused. As a matter of fact it should be recognized that accepted psychiatric classification includes no such clinical entity as temporary insanity. The term is a legal device accepted by usage which gives the defense an opportunity to circumvent the accepted charges. It is undoubtedly true that some emotional component, such as rage, passion, or fear, enters into almost every case of homicide. However, we do not feel that these intense emotional disturbances can or should be considered as irresistable impulses or temporary insanity. Not only do powerful emotional components enter into cases of homicide, but there are often many facts and conditions which explain and partly excuse the crime. When these mitigating circumstances do exist, we see no reason why the plea of temporary insanity should be utilized to serve as a foil for the real facts of the case.

Since this undesirable condition has arisen, what can be done about it? In lieu of court recognition of impartial psychiatric opinion regarding the degree of responsibility certain other more easily attained changes should be instituted.

In the first place, a thorough psychiatric examination should be made in all cases involving homicide *immediately* after the crime in order to obviate to a large extent the present method of determining by inference at a later date the state of sanity of a person at the time of the crime. If it were established that the defendant were sane in this immediate examination, the plea of temporary insanity might be deterred. This examination should be conducted by some existing recognized state psychiatric agency, the impartiality and competence of which should be unquestionable. These findings would be a part of the court record available to both sides. Such a procedure would be in keeping with the present method whereby the extent and nature of a physical injury incurred at the time of the crime are carefully recorded by the court agencies.

In the second place, we should look to the psychiatrists themselves for aid. Although the law, the courts, and the lawyers are certainly involved in the abuse of the plea of temporary insanity, the psychiatrists are responsible in no small measure. As long as there are specialists in mental disease who further the spurious plea of temporary insanity, the present undesirable condition will exist. This is true even though this aid is given unwittingly and the doctors in question act with the best of motives and with unquestionable honesty. The American Psychiatric Association disproves of such activity and testimony on the part of its members, and a joint committee of this organization and the American Bar Association has advocated improvement of these matters for some time. However, the most far-reaching reform should come from within by those psychiatrists who are willing to remedy the situation in so far as they are individually responsible. Moreover the medical profession at large and its various associations can discourage these practices by refusing to support men who are identified with questionable professional testimony.

C. A. R.

Postgraduate Clinics— Registration Statistics

THE last preceding issue of this journal had gone to press before registration statistics were available on the Fourth Annual Postgraduate Clinics. Attendance was the largest in the history of the institution. Total registration was 245, as compared with 208 in 1935 and 243 in 1934. Physicians from Denver comprised 120; from outside Denver, 121; and from outside Colorado, 4. Registrations and re-registrations totaled 145, 102 and 116 for the three respective days—making 363 man-days attendance.

The social as well as the clinical success of the meeting has received widespread comment. Time in its flight brings many friends together with seeming frequency at well-attended annual functions. Some of our local colleagues are seen scarcely more often! The good fellowship and friendly feeling which characterizes the profession in this state is indeed enhanced by these gatherings.

The Clinics Committee wishes that this

journal express appreciation to those who gave clinics, the hospitals for supplying complimentary lunches, and to those men who came long distances to attend.

The Committee also desires suggestions whereby next year's clinics may be improved over those of this year.

Diet in Migraine

THE question of diet in allergic disorders, various dermatoses, epilepsy and migraine has been discussed from so many angles that many of us have either fallen into a state of confusion about it or have come to minimize its importance.

A recent article has named a few sensible principles in "eating to the best advantage" in migraine. No claim is made to name one or several causes of this condition, but there is reason to believe that at least in the majority of cases too much water is retained by the body. Proteins facilitate its elimination and fats and carbohydrates encourage its retention. Thus if a "water-logged" brain is responsible for the pain of migraine, a low caloric diet high in protein and low in fats and carbohydrates will act as a physiological antedote. Salt may also be well restricted, as it engenders thirst, and fluid intake lessened.

Here is a simple principle which may guide the choice of food in any case and its benefit, if any, appraised. If relief is unsatisfactory, there is plenty of time to search for allergic etiological agents or to try elimination diets. Some victims may be sensitive to eggs, meat, shell fish or other articles and improve greatly when the allergen is prohibited.

Knowing the possible detrimental or even dangerous potentialities of drugs commonly used in this condition, say nothing of the inconvenience and financial liabilities thereto, it is undoubtedly wise to institute first the simplest procedure. It is safest, most economical, and will beget more complete and lasting cooperation of the patient—who probably has already become discouraged with "doping."

Publication Dates

FOR several months Colorado Medicine has reached its readers around the fifth to the seventh of the month, instead of the first. The advent of color on our cover pages with the necessary double and sometimes triple press-runs has increased the complications of those final days of the month when the journal is actually in the process of "going to press."

We want Colorado Medicine to be in the hands of readers on the first of each month. Contributing authors are eager that their work be presented at the earliest possible date. Advertisers plan their presentations for the whole calendar month. Announcements should be on time.

With proper cooperation from all concerned—and the staff of Colorado Medicine promises its own earnest efforts—Colorado Medicine can issue on time every month. A more rigid enforcement of "dead-lines" for receipt of manuscripts than has obtained in the past is in order. Original articles and other lengthy manuscripts can never be handled later than the 15th of the month preceding date of publication. Contributed editorials, announcements, Auxiliary items, medical society news, and advertisements never later than the 20th. Five to ten days earlier receipt than those indicated will be better assurance of prompt publication.

The red corpuscles of the blood in human beings are only slightly smaller than the corpuscles of the elephant. The erythrocytes of the frog, on the other hand, have a diameter three times as great as that of man, and in vertebrates still lower the corpuscles of the blood can be seen with the naked eye.

A tuberculous patient may expectorate up to 3,000,000,000 tubercle bacilli in one day; the dried sputum in a cool dark corner may contain virulent germs for eight months.

Tetanus toxin is sixteen times more toxic, as judged by the lethal dose, than cobra venom, and 120 times more poisonous than strychnine.

CHANGES CONFRONTING MODERN MEDICINE*

R. G. LELAND, M.D.
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I appreciate your courtesy in inviting me to discuss with you the economics of some of the changes confronting modern medicine. I hope that in this brief time you will not expect me to cover the field completely, since that is manifestly impossible. It is my hope, however, to touch on a few of the more important phases of medical economics so that you may better understand some of the attitudes and some of the principles that are being developed by the American Medical Association to assist you in these troublesome problems.

Medical economics is as old as medicine itself. If you will refer to the edicts of some of the early emperors you will find that physicians were required to treat the poor for nothing; at the same time you will find that history records that many of the physicians of the early emperors amassed great fortunes by large fees. It is possible that Paul, in his Letter to Timothy, had some understanding of economics when he said that the laborer is worthy of his hire.

During the early centuries of medicine, physicians were absorbed in developing from the masses of mysticism, superstition, folklore and unrelated empiricism a more orderly array of truths, demonstrable facts and logical procedure. For the most part, medical economics then affected only the individual physician. It was Hippocrates who, some time during the fourth or fifth century before Christ, gave to medicine its scientific spirit and its ethical ideals. It was he who developed and promulgated first the bedside medicine which has proved its worth over these many centuries.

Medical economics of today cannot be separated from the medical ethics that have governed medicine for more than twenty centuries—changed, to be sure, from time to time to meet certain of the conditions which confront medicine in these progressing years, but nevertheless founded on those principles which were handed to us by that Father of Medicine, Hippocrates. If you will but consult the principles of ethics of the American Medical Association, you will find that for the most part these principles have economic implications.

Medical history is filled with almost unending accounts of romance, adventure, pioneering, sacrifice, freedom of individual action and glorious accomplishments. A review of medical history from this standpoint would well consume the time of an entire morning, and it is a glorious accomplishment that medicine has written on the pages of history during all these centuries.

Many of these characteristics of science and medicine would be devoid or made impossible by the regimentation which certain interests are now urging on medicine and the public. Although it is impossible to discuss here all the details in which the economics of medicine differs from the economics of industry, commerce and business, a few of the more prominent ones may be mentioned.

First, production in medicine does not depend on technological inventions nor on the assembly line method of treatment of disease. It depends chiefly on scientific discoveries. The real capital in medicine consists of the growing fund of knowledge in the medical professions of the world. That knowledge is stored in the literature, in the minds, and in the traditions of the medical profession. It is transmitted through the universities, the books, the journals, the lectures, the clinics and through medical practice.

With the advent of our modern complex civilization, the machine age of industry, the growth of large urban centers and the unfolding of science, the practice of medicine took on new aspects, new implications, new possibilities and new responsibilities.

Medicine has always had as its primary objectives the welfare of humanity, the relief of individual suffering and physical han-

*Presented before the Sixty-fifth Annual Session of the Colorado State Medical Society, Estes Park, September 6, 1935. Dr. Leland is Director of the Bureau of Medical Economics of the American Medical Association.

dicaps, and the improvement of the public health. Reward or financial gain should be a subordinate consideration.

The payment for medical services involves a conception of values entirely different from the values in commodity markets. In the commodity markets it is the producer as well as the purchaser who is supposed to have the power to decide whether he will buy or sell. In medicine, while the profession insists that the right of the individual to choose his own physician shall remain inviolate, and that the individual physician shall have the right to determine whether he shall serve an individual patient or not, medical ethics prohibits the profession as a whole from refusing to serve the sick.

I quote again from the "Principles of Medical Ethics," "When an epidemic prevails, a physician must continue his labors for the alleviation of suffering people without regard to his own health or life or to financial return." History is filled with examples of faithful adherents to this principle of medical ethics which has always been interpreted by the profession to mean that no matter how unbearable the condition of service may be, medical service must not be withheld from those who need it.

A striking example of the practical application of this principle was offered by the physicians' strike against almost unbearable and unendurable conditions created under sickness insurance in Germany. The physicians struck by refusing to accept the totally inadequate pay and the hampering regulations of the insurance system but continued to care for the sick without pay. In the United States, in recent years, physicians in some localities refused to accept payment and conditions imposed by relief officers but continued to care for the indigent without payment.

It has always been the custom of the medical profession to use what economists call the class price or sliding scale by which charges are varied according to the ability of the patient to pay. A disregard of this principle may be either unfair to the physician and pauperizing to the patient through the establishment of low fees, or it may result in the unfortunate and unmerited stigmatism of the vast majority of fair physicians by a few who express their commercial avarice by charging disproportionate, unwarranted and exorbitant fees.

The value of services rendered as compared with commodities purchased on the market is thwarted by such absolute values as life and health, which defy market valuations. Medical ethics frown severely on attempts to make financial bargains and to accumulate riches or large bank accounts on the basis of such absolute, vital values.

On the demand side of the medical market it is necessary to bear constantly in mind the presence of a large, low income class. It is the existence of inadequate incomes that has created the problem of free and pay clinics, of free hospital care, of group hospitalization schemes, of infant and maternity welfare movements, of sickness insurance, of workmen's compensation, of industrial medicine, of contract practice, and, to a large part, of the public health and school medical service problems. More than one-half of the families of the United States have incomes of less than two thousand dollars annually. All these and many other facts lead inevitably to the conclusion that these problems are primarily economic and not medical, and they will not be solved by any reorganization of the long tested and approved method of medical practice.

Those who have been actively engaged in promoting propaganda for the reorganization, mechanization, and socialization of medicine allege that the medical profession has been static and obstructive and that the public is not getting the medical care that it deserves and needs. Let us examine the record.

Without any compulsion from the outside forces or interests, the medical profession has, during the last quarter of a century, continuously sought to raise the standard of medical education, of medical licensure, of hospital practice, and more recently the certification of specialists. It is within the memory of many of you here that the courses in medical schools have been increased from two or three years to a possible ten years of medical and pre-medical education. Medical licensure has increased its standards and

all of these efforts have been for the benefit of the public through the elevation of the quality of medical service. I would call your attention also to other things that the medical profession has contributed to the public welfare.

In the last one hundred years the average life expectancy at birth has increased from about twenty-eight to nearly sixty years, largely through the efforts of medicine. New methods of diagnosis and treatment are constantly being developed for the benefit of suffering humanity. The battle against disease continues. Many of the diseases which formerly took heavy toll of life, to say nothing of suffering and expense, are now greatly reduced if not practically eliminated. In no other country in the world do people receive the high quality of medical service that they do in the United States of America.

The medical profession has sought continuously to analyze, criticize and correct appropriately deficiencies in its own field. As examples of these efforts to improve the methods of distributing medical service are found the newer methods of medical care of the indigent sick, the improvement of workmen's compensation laws as shown most recently in the new laws passed in New York State, the correction of clinic and hospital abuse, the care of low income groups by medical societies.

Society seems to have accepted and our government appears to be operating on a new social philosophy. As a result, or at least coincident with this philosophy, it appears that too many people nowadays are losing their sense of individual responsibility and obligation. Medicine cannot hold itself completely aloof from all social changes, but as times change and social improvements or changes occur, medicine must cling to sound principles.

In an effort to correct some of the deficiencies in medical service and to supplement existing medical facilities, more than two hundred medical societies are now operating or are studying a type of county medical society plan for the distribution of medical service to those with low incomes. Time will not permit a full discussion of all these plans and methods which are now being considered or operated by county medical societies, suffice it to say that not all communities need a medical plan. In my opinion there is great danger of the development of what we might term a pandemic of planitis. County medical societies should not be intrigued by other counties in which a medical plan seems to be operating successfully; they should not consider a plan unless it is the consensus of opinion that such an undertaking will aid materially in the distribution of better medical service to that community.

If it is thought advisable to develop a plan, the House of Delegates in 1934 at Cleveland adopted ten principles to govern in the framing of such an undertaking. At the special session the House of Delegates of the American Medical Association in February, 1935, opposition to all forms of compulsory sickness insurance whether administered by the Federal Government, the Government of the individual States, or by any individual industry, community or similar body was reaffirmed. The House of Delegates also reaffirmed its encouragement to local medical organizations to establish plans for the provision of adequate medical service for all of the people, adjusted to present economic conditions, by voluntary budgeting to meet the costs of illness.

The report of the Reference Committee which reported at the special session also stated: "The plan developed by the Bureau of Medical Economics will serve the people of a community in the prevention of disease, the maintenance of health, and with curative care in illness. They must at the same time meet apparent economic factors and protect the public welfare by safeguarding, to the medical profession, the functions of control of medical standards and the continued advancement of medical educational requirements.

"They must not destroy that initiative which is vital to the highest type of medical service."

At that time the House of Delegates requested the Bureau of Medical Economics to make a further study of these county medical society plans and report at the next annual session, which was held in Atlantic City in

June of this year. This report of the Bureau of Medical Economics which was adopted can now be obtained in reprint form entitled, "Medical Service Plans."

From these brief remarks, it should appear that changes confronting modern medicine are not everywhere alike, that they shift in their importance, that the medical profession itself is best qualified to analyze the conditions of medical practice needing change and that whatever modifications or improvements are needed should be made by the medical profession and not by some outside interest or agency.

I offer, in addition, a brief statement of some of the dangers that may attend the development and application of a county medical society plan:

First, the adoption and operation of a medical plan where it is unnecessary.

Second, the stimulus aroused by good plans among irresponsible workers to develop and operate similar imitations and counterfeits.

Third, the establishment in medical practice of dangerous patterns following the adoption of undesirable types of plans.

Fourth, the compromise of medical societies in the corporate practice of medicine or the operation of insurance companies as a result of an insufficient study of State statutes and case law.

Fifth, failure in the operation of the plan to conform to the principles of medical ethics.

Sixth, the almost inevitable transition of voluntary insurance plans into compulsory contributory sickness insurance systems operated by the State.

Seventh, the difficulties involved in or the failure adequately to provide for complete control of medical affairs by the medical profession.

Eighth, the freezing of medical fees at a point below that which is consistent with good medical care.

Ninth, failure to bear constantly in mind that a medical society plan is an experiment in the methods of distributing medical service and that it may have only a temporary usefulness, may need frequent or drastic changes, or may need to be discarded entirely.

Medical society plans must not be considered or accepted as a substitute for the regular practice of medicine as applied to the majority of people. If it is believed such plans may be useful, they should be considered merely as supplementary facilities in the distribution of medical service; they should be used only so long and in such manner as they serve efficiently to make more easily available to low income groups a high quality of medical care.

I suggest to you, then, these recommendations:

If medicine is to retain a high regard for the time-honored and universally respected traditions of the profession and if the people are to be served well, both in sickness and in health, medicine must continue to advance scientifically. It must continue to give good medical care. It must devise means of making medical service available to all at fees adjusted to present economic conditions.

It must more closely co-ordinate preventive and curative medicine. It must present a single collective voice and consistent efforts regarding social, ethical, economic and legislative affairs. It must not merely oppose, it must be positive and constructive.

It must prepare oncoming generations of physicians, while yet in medical school, with a better understanding of the problems and the principles in medical economics. Medicine must cling to the principles of medical ethics. It must continue to differentiate sharply between honest scientific medical care and the spurious imitations of the quacks, the cults, and the charlatans.

A short time ago it was my privilege to listen to a most brilliant lecturer who addressed himself to the subject, "Converting Liabilities Into Assets." This man traced, with most intriguing interest, the story of many individuals in history, in art, in poetry, in music who had liabilities in the form of some kind of physical disability. Those persons overcame their disabilities and made history in literature, in art, in music. We enjoy and profit by their accomplishments today. These people believed in themselves.

It seems to me that medicine can learn from that topic—"Converting Liabilities into Assets." Physicians must believe in them-

selves, they must believe in medicine as an institution, and they must believe in it not merely in their own minds silently or in their society meetings; they must believe it in their offices, in their homes, in their everyday contacts.

Therefore, the medical profession must continue to believe in medicine as an institution; it must continue to demand that medical service shall be judged and administered by those qualified by education, license and experience, namely: Qualified Doctors of Medicine.

Then and only then shall medicine be preserved as a free and independent institution to administer appropriately relief to the sick and helpful advice to the well, and to continue to advance and to serve in the best interests of both the public and the profession.

BETTER PSYCHIATRY BY THE GENERAL PRACTITIONER*

DUANE F. HARTSHORN, M.D.
FORT COLLINS

At Fort Collins there is a College of Veterinary Medicine. I am frequently told by a veterinary friend that it takes a much smarter man to be a veterinarian than a physician, because a horse cannot tell his doctor what is the matter with him. My reply to this has always been that neither is the horse able to lie to the veterinarian about his symptoms! Not that our patients ever lie to us concerning their symptoms, but certainly we are frequently misled by the patient's description of his illness. This paper deals with one way in which we are sometimes misled.

This paper would be better titled "A Better Understanding of the Psychoneuroses by the General Practitioner" than the title by which it was introduced. The reason for this is that neither in the practice of general medicine and surgery nor in this paper am I particularly concerned over that part of psychiatry dealing with insanity, because this group of patients are primarily problems of the specialist in psychiatry. The reason for this is obvious. Diagnostically, either the patient is easily and accurately adjudged insane by neighbors and family, or a question as to the individual's sanity still remains after competent study by the psychiatrist.

Surely from a treatment standpoint the insanities are a problem of the specialist. However, the psychoneuroses are primarily a problem of the general practitioner. The reasons for this are, first, the family physician is usually first to see the patient; second, the family physician often has considerable valuable knowledge of the patient which is an aid both in diagnosis and therapy; and third, the family physician is the only doctor who is in a position to treat adequately the proportion of patients having both psychoneurotic and organic ailments which cannot be segregated and treated separately.

Estimates vary tremendously as to the percentage of the cases seen in the general run of practice which have a psychoneurotic element of sufficient magnitude to need therapy. I personally feel this percentage is quite high. Certainly the patient seen with a psychoneurotic complaint which demands treatment is not infrequent. Because of several mistakes I have made in not accurately recognizing and evaluating the psychoneurotic element of a particular case and because of similar errors which have come to my attention on the part of fellow practitioners, I take this opportunity of presenting this paper.

I make no pretense of being a psychiatrist. I am a country doctor—a practitioner of general medicine and surgery—and this is not a technical paper on psychiatry. I simply wish to emphasize the need for prompt recognition and proper evaluation of the psychoneurotic element of the individual case.

In the study of the psychoneuroses in medical school and in treatises upon their

*Presented before the Sixty-fifth Annual Session of the Colorado State Medical Society at Estes Park, September 7, 1935.

treatment in recent literature, it is frequently emphasized that organic disorders should be found and corrected before making an attempt to elicit psychoneurotic elements in the case. I believe that this procedure is not only illogical and inefficient but that it is also pernicious in that the difficulties of adequate treatment of the psychoneuroses multiply as the condition is neglected.

If a patient with tuberculosis as well as syphilis is to be treated, we do not delay starting treatment of the tuberculosis until the syphilitic infection has been corrected, but both ailments are treated as soon as diagnosed. The same holds true for the psychoneurosis, which should be recognized and treated concurrently with the organic illness of the case. If the diagnosis and evaluation of both the psychoneurotic and organic elements of the case are accurate, therapy becomes correspondingly more effective.

A discussion of the etiology, diagnosis, and treatment of the psychoneuroses is outside the purpose of this paper. However, I think it will clarify the following to go into the mechanism of a psychoneurotic briefly.

When an individual, who has so developed in personality make-up that he is deficient in security and emotional stability, is called upon to meet situations of unusual emotional stress, that individual sometimes develops symptoms of disease. The characteristic thing of the symptoms in the psychoneurotic is that on study they are found to be not of organic origin.

The following are a few brief case histories which illustrate the need for accurate recognition and proper evaluation of the psychoneurotic element as well as the organic element of the case. These are cases in which proper evaluation of the psychoneurotic element proved to be the key to successful therapy.

The first is a woman of about 35 with three children, complaining of pelvic and digestive distress, pain on sexual intercourse, lower abdominal pain, general weakness, fatigability. Physical examination was negative except moderate tenderness over McBurney's point, a fourth degree uterine retroversion, and extreme tenderness and pain on vaginal examination.

At operation a chronically inflamed appendix was removed and a uterine suspension done. Following operation there was no further complaint of the digestive distress but the pelvic complaints and general weakness were increased. On further questioning it became evident that this patient had little feeling of security, feared another pregnancy, and also that she had had a terrifying sexual experience as a girl. These were some of the underlying factors in the development of the psychoneuroses which were causing her pelvic and exhaustion complaints.

Because the patient had already been convinced that the retroversion was the cause of her pelvic difficulty, the results of psychotherapy have been long delayed and it has taken over two years to overcome the handicap. To me it is evident that if the proper evaluation and formulation of both the physical and psychoneurotic elements had originally been made in this case the patient would have received a great deal more benefit from the treatment.

The second case is one in which there was no organic element found. A young man about 25, whose complaints were chest pain and fainting attacks, was so much an invalid that he was unable to continue his work as a civil engineer. He had had very extensive chest and heart studies without finding any cause for this disability. The specialists who made these studies dismissed him with the order that there was nothing the matter with him, to go back to his job and forget his troubles.

It was good advice except the patient had an attack on a rather steep hillside and received serious physical injury when he fainted. On careful questioning it became evident that this young man had little self-confidence nor sense of security. He stated that as a boy "anyone could chase him home from school." During his boyhood his father and mother had separated. As a college freshman the fraternity to which he was pledged had broken his pledge, which resulted in his quitting school.

In talking with this patient it was evident that these three things were large factors in the development of this insecurity, and this with the fact that these attacks always came on during periods of emotional stress (three of them having been precipitated by arguments with fellow workmen) pointed to the diagnosis.

His symptoms were a withdrawal mechanism from unpleasant situations, i. e.. situations with which he was unable to cope. Explanation of the emotional mechanism in this illness has resulted in complete disappearance of the symptoms and this man recently went through a severe quarrel without any abnormal emotional upset.

In addition to the relief of his symptoms, this patient has received a great deal of benefit in a manner which is characteristic of the psychoneurotic. His feeling of security, competence and capability has increased so that now he not only lives much more happily but is more competent in his work.

The third case is a woman of about 30, whose complaints were nervousness, weakness, heart palpitation and pain at the tip of the right mastoid. A lump of the right lobe of the thyroid was quite prominent. Except for a normal basal metabolic rate and the right mastoid pain, this was a textbook picture of hyperthyroidism.

In this case, being a practitioner in the community and knowing something of the social background of one's patients was a valuable aid in arriving at the right diagnosis. This woman did have an adenoma of the thyroid which should be removed. but the thyroid condition was not a factor in causing the symptoms which brought her to the doctor. She was suffering an emotional conflict over the fact that she was having an affair with a gay blade of the town in spite of the fact that such conduct was contrary to her morals and ideals.

Aid in a sensible reorganization of her emotions, proper evaluation of her affection for her husband and her family, and seeing her extramarital affairs in an unemotional light ,soon corrected the whole difficulty.

Another case is that of a woman about 34, whose presenting symptoms were weakness, amenorrhea, easy fatigability and dyspareunia. The menstrual disorder responded promptly to endocrine therapy but the other symptoms persisted and the reason became evident when the emotional conflict attendant to marital difficulties was understood. In other words, the symptoms which made this patient seek medical attention and which were distressing her most were relieved only when the mechanism involved was understood.

This last case is to me the most illustrative of this group—a young woman of 21 whose complaints were those of weakness, palpitation, and fatigability resulting in chronic invalidism. This illness dated from a period of unconsciousness which came on about five years ago and following which the patient was confined to bed for a period of two years. During this period and for an additional two years she was treated first for a thyroid disorder and then for a cardiac disorder, neither of which existed.

At about this stage in her illness she moved to Colorado and came under the care of a general practitioner who recognized the emotional element, but whose therapy consisted in telling her and her mother that this was a nervous disorder which would be outgrown. Physically she was a normal young woman, physical examination disclosing no important abnormality, but emotionally she was not normal.

In talking and getting acquainted with this patient the following things soon became apparent. First, she showed an abnormal attitude toward the opposite sex for a 21-year-old girl, having had no association with boys since the beginning of her illness and on one occasion when a neighbor boy came to the house and talked with her she became so upset that she stayed in bed several days. Second, she expressed great fear of death. She told me at length of lying awake at night, afraid she was going to die. Third, there was inability to cope with the most minor emotional stresses of everyday life, such as making a classroom recitation. Here were three pieces of evidence, any one of which should make one suspect a psychoneurotic basis for the invalidism, yet during four years this girl had been fumbled

through the hands of at least five different doctors, all of them I believe quite competent general practitioners but all surely lacking in attention or understanding of the psychoneuroses.

I mean to be critical of these doctors and of our profession generally in so far only as we fail to put forth sufficient effort to obtain and practice by an adequate knowledge of such an important factor as the psychoneurosis in the production of human illness and suffering. This girl's illness had been precipitated by the emotional conflict resulting from a sexual experience five years ago.

Under strenuous and time-consuming therapy she has made only slow and difficult progress. The tragedy of this type of case is that psychically the damage done during the four years in which the case was treated entirely from a physical standpoint brings about such difficulties of treatment that years are now required to obtain the same adjustment that might have been obtained in a few months if proper therapy had been instituted at the beginning of her illness. In addition, this patient has suffered untold agonies during these years because the psychoneurotic element in her case was not early recognized and properly evaluated.

I will not discuss psychotherapy except in the briefest of terms. The patient is suffering from certain symptoms which are due to emotional conflict. Understanding this mechanism is the first step. As soon as this conflict is understood, I might add, by doctor as well as patient, further therapy must be directed along one or both of two lines: Either the situation causing the emotional upset must be changed or the patient's attitude toward the situation must be modified. The patient must get what he wants or learn to be happy with what he can get. As a matter of fact, it usually takes some of both. While effecting the necessary changes is sometimes difficult, it is usually comparatively simple as compared with repairing severely damaged kidneys or a badly diseased heart.

Many will argue that placing so much emphasis on the psychoneuroses will lead to slipshod diagnostic methods in which the physician gets in the habit of calling everything a psychoneurosis unless it is very plainly a physical disorder. The etiology, symptoms, general make-up and features of a psychoneurosis are just as definite and are just as diagnostically apparent as are the symptoms and physical findings of the organic disease.

It is true that at times there is great difficulty in concluding accurately as to the presence, absence or extent of the psychoneurotic element in a given case but is there any doctor who has not been confronted by a grave doubt as to whether this case really had gall bladder disease or whether that one did or did not have tuberculosis?

There is no laboratory test for psychoneurosis. But this, far from discouraging us, should make us more keen to use the diagnostic means available. Careful, painstaking histories and equally careful, painstaking physical examinations will pay big dividends in helping all of us determine the cause of the symptoms which bring the patients to us. Treating the patient as a whole, his psychoneurosis as well as his organic illness, will pay equally great dividends in increasing therapeutic effectiveness.

ABSTRACT OF DISCUSSION

E. G. Billings, M.D. (Denver): We are all indebted to Dr. Hartshorn for this very telling paper. He is to be commended for his very common sense presentation of facts of interest to us all, his well described case material, and his gratifying results. Particularly, do I wish to commend him for so concretely showing us that psychiatry is an advancing field of medicine—at least is tangible with and usable to general medicine.

Dr. Hartshorn stressed the psychoneuroses. He is quite right that the minor personality reactions, such as psychoneuroses, are primarily the problem of the general practitioner. Realizing this, we are endeavoring to correlate psychiatry with medicine and surgery at the Colorado General Hospital. We find that of all the sick patients coming into the out patient medical department of the Colorado General Hospital, 37 per cent have illnesses to be understood in terms of "nerves" or emotional upsets rather than in terms of lesional body pathology.

Of the total admissions to the medical wards of the Colorado General Hospital, approximately 10 per cent are to be understood and treated as psychiatric-medical problems. Approximately 3 per cent of all the admissions to the surgical wards of that hospital would fall into that group —about 6 per cent of the admissions to the pediatric service and about 2 per cent of the admissions to the obstetrical service of the hospital are to be so understood and treated.

What about the importance of the psychoneurotic group in this total patient load? Approxi-

mately one-third, 33 per cent of all those cases, are psychoneuroses such as those of which Dr. Hartshorn spoke. The remaining two-thirds of the patient load referred to the psychiatrist for assistance is composed of disorders of mood—particularly depressions, delirious reactions, personality reactions due to brain disease, schizophrenic reactions, and disorders which are results of poor intellectual endowment. Of this latter group, the mood disorders—predominantly depressions, which are really to be considered major reactions or psychoses—take a notably prominent position. Approximately 18 or 20 per cent of all our cases are of such a nature. Such reactions are, I think, easier to treat than the psychoneuroses, yet are more frequently overlooked than the latter.

It is frequently stated that the deliria are the reactions of primary importance to the general practitioner, surgeon, and internist. We find that the delirious reactions only constitute about 2 per cent of all the patients that we are asked to see. Concerning this type of disorder, which from a statistical percentage standpoint seems insignificant, I should like to stress the fact that delirium accounts for more injury and death to patients in the Colorado General Hospital than does any other psychiatric reaction type.

Dr. Hartshorn pointed out also a very important fact when he stated that it would be better for us not to consider an illness as being either physical or a so-called mental or nervous disturbance. Why can't we consider illness more from the standpoint of a person, alive, behaving and functioning mentally and physically, who is sick? After all, about 12 per cent of all the patients that we see as psychiatrists have some incidental somatic disturbance or pathology. It may or may not play a component part in the chief complaint.

Very certainly the early differentiation of the type of illness that walks into our offices is of great importance. That is the first step in therapy. It certainly is one step toward cutting down sick days or hospital days.

Dr. Hartshorn makes one statement with which I am not altogether in accord. He stated that the patient's description is not always concise, definite, and is sometimes even misleading, provided the patient has a psychoneurosis. I take issue there. I would say that if the physician is willing to elicit a complete complaint from the patient it usually is very concise, pointed, and very frequently will lead the way to a correct diagnosis. It is just as concise, just as leading, as any complaint occurring around the constellation of symptoms due to some somatic pathology.

After all, it is the complaint for which the patient comes to us for treatment; it is the complaint we have to understand; it is the complaint we want to treat and alleviate. Therefore, it is worth while spending some time on it.

Certainly, as Dr. Hartshorn pointed out, a common sense therapeutic approach to whatever problem comes to us is far better than starting with some highly technical therapeutic trick, and common sense treatment will usually take care of the great majority of those patients.

It has been estimated that sick patients take up approximately seventy-three million hospital days in the United States. There are fifty million more hospital days taken up by patients mentally and emotionally sick than are required for the care of those sick in other ways. This is a problem, the solution of which rests, to a great degree, on the shoulders of the general practitioner. It therefore behooves us all to be in a position to understand and treat the more personality determined disorders, as well as those illnesses which can be evaluated solely in terms of somatic disease.

T. E. Carmody, M.D. (Denver): Our patients who are physically ill are mentally ill, and we all should be psychiatrists with our patients, in a way. You hear so often that this patient is hysterical or that that patient is a crank, and that we can't get along with him. It may be partly in our own minds and we should understand that our patients who are physically ill may have a fear of something else. Frequently they have fear of a goiter or something which they do not happen to have. They frequently come to us with sinus trouble and they are afraid they are going to die because of it. They are mentally ill because they have that fear.

Dr. Hartshorn (Closing): It is not my wish to give the impression that all psychoneuroses should be treated by the general practitioner, because that isn't true. Frequently those cases which are purely psychoneurotic are much better treated in institutions or by the specialist.

As to what a psychoneurosis is from an etiological standpoint, if you go very far you soon gasp for breath. There is glandular imbalance and emotional conflict; there are many factors involved. From a practical standpoint, if it is put on a basis of emotional conflict and emotional storm within the patient and is approached from that direction, more frequently we will obtain definite, tangible results.

COMPULSORY HEALTH INSURANCE —A DESTROYER

The scheme of compulsory health insurance is frankly discussed by Mr. Gordon, an insurance expert. The author of this article, which was written exclusively for the Detroit Medical News, is Executive Secretary of the Health and Accident Underwriters Conference, with national headquarters in Chicago.

A small boy always prefers the toys of his playmates. The grass in the pasture on the other side of the road always looks greener and fresher. Compulsory health insurance laws of foreign countries appear to many as Utopian in character compared to the American system of medical care. Professional reformers and "foundationers" dangle tempting bait in the form of national health insurance schemes and like the small boy desiring his playmate's toys and grazing cattle in search of greener grass, we Americans are prone to grab at the idea of compulsory health insurance as something better than we already have. But is it?

In these times of economic distress it is difficult to think clearly. Emotional appeal supplemented by political consideration is one of the principal motivating forces behind the agitation for a new plan of paying for medical care. The element of sound business judgment as to cost, measured both in dollars and cents and by a deterioration of American ideals and principles, is secondary. Social insurance movements from their inception in Germany fifty years ago down to the present day are recognized for their vote-getting quality.

All contemplated plans for compulsory health insurance now being proposed are of such great magnitude and complexity and deal with the possibility of so many radical changes in our social and economic order that much more time than merely a brief legislative session should be given to the study of any national health insurance plan.

MODERN HANDLING OF CONVERGENT STRABISMUS*

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DENVER

During recent years the advances made in the treatment of strabismus and allied muscular abnormalities have been so noteworthy and the contrast so marked as compared to the methods described in most texts on Ophthalmology, that it seems fitting to present briefly the most recent and widely accepted views and methods of procedure in such cases, especially in convergent strabismus. It is estimated that nearly 95 per cent of strabismus cases are convergent, and 5 per cent divergent.

The study of these cases is receiving much more attention of late than ever before, and seldom do we see a monthly publication on Ophthalmology which does not contain an article on disturbances of the ocular muscles, and the treatment. It is only natural that authorities should differ somewhat in their methods, and in their conclusions, but it is generally agreed that before anything is attempted in treatment, the strabismus cases should be classified. Guibor places his cases under the following headings; they are classified according to etiology:

1. Pseudoparalysis.
2. Accommodative strabismus.
3. Strabismus associated with fusion defects.
4. Strabismus associated with amblyopia.
5. Strasbismus associated with muscular abnormalities.
6. Pseudo-strabismus.
7. That due to anisometropia or aniseikonia.
8. Combinations of the above.

This seems to be a very complete classification, and by utilizing it in the analysis of cases, those may be readily eliminated which are unsuitable for treatment—as well as the course of treatment decided upon for suitable cases.

The non-operative treatment for strabismus has been given the term "Orthoptic training," and includes among other things: (a) refraction, (b) efforts to reduce the ambylopia, (c) exercises to overcome suppression, (d) development of fusion, (e) production of stereoscopic vision. A thorough refraction under cyclopegia comes first in importance, with prescription for the proper glasses to be worn continuously. Hypermetropia frequently of high degree is the most important factor in the etiology of accommodative squint, so it is no mere coincidence that many patients with convergent strabismus are farsighted. When we encounter a high hyperope without squint it is evident that we are dealing with a case in which the fusion faculty is functioning well. Another very prominent factor in the development of squint consists of defects in the fusion faculty. When such defect is present, anything which upsets the motor balance of the eyes can cause a squint. In long standing cases of squint, there is no diplopia, because the image formed by the deviating eye is suppressed.

Amblyopia exanopsia of the deviating eye is frequently found, unless the case is one of alternating squint, and an effort to improve the vision of this eye should be made before anything can be expected in the way of overcoming suppression, or developing binocular single vision, fusion, and stereopsis. In some such cases, this amblyopia is so profound that efforts to improve vision are practically of no benefit.

The work done in the past along the lines of orthoptic training was frequently not carried out with any great amount of perseverence or understanding, and was consequently usually very haphazard and ineffectual. This happened because the task of orthoptic training requires infinite patience, a psychological turn of mind on the part of the instructor, and the devotion of much individual time and study, which the average ophthalmologist cannot give.

At present, several Orthoptic Clinics are being successfully conducted in connection with medical universities, and it is in these

*Presented before the Sixty-fifth Annual Session of the Colorado Medical Society at Estes Park, Sept. 6, 1935.



CASE I

Extreme convergent squint—operation, 1929

One operation only—result not perfect, but cure is completed by the glasses.

clinics that the most is being accomplished. Such a clinic has an ophthalmologist in charge, and skilled technicians carry out the routine training. In addition these clinics are equipped with the most modern and approved apparatus. Please bear in mind that this carefully systematized orthoptic training is in no way related to the useless types of muscle exercises which are recommended to patients by some of the optometrists.

I do not wish to give the impression that all cases of squint can be cured by such treatments. Such is far from true, and one must not be carried away by over-enthusiasm. Avery Hicks, after careful study concludes an article by stating that after taking "the necessary steps to develop vision, break down suppression, correct false projection, correct refractive errors, and then rule out those cases of muscular weakness and aniseikonia, the cases left for orthoptic treatment to straighten out is relatively few." Luther Peter says "the percentage of cases which regain parallelism by wearing of glasses is unfortunately small. In many cases, however, the squint is reduced in amount. In the majority of these cases even fusion training will not restore the eyes to parallelism. This is because the two images are beyond the breadth of fusion, and if in such instances an operation is performed which reduces the squint sufficiently, the fusion faculty can then complete the cure." It is quite true that in some cases the wearing of proper glasses reduces the amount of accommodation required to such an extent



CASE II

Convergent Alternating Squint.

The operation followed by orthoptic training.



CASE III

One operation performed, right eye—amblyopic. No glasses needed.

that the associated convergence stimulus is also reduced sufficiently to cause a disappearance of the squint.

Most authorities agree that the best results from orthoptic training are obtained before seven years of age, but a few (Cantonnet, Guibor), have reported good results when training was started much later in life. Good results can seldom be expected when the vision of the deviating eye cannot be improved to at least 20/80 (Gifford), and usually a squint of more than fifteen degrees does not offer much chance of parallelism by opthoptic training.

Luther Peter makes the statement that spontaneous cure of convergent squint is of so rare an occurrence that it should never be held out to the parents of the children so afflicted as even a remote possibility, nor should parents be advised to wait until the child is of school age before starting treatment. Much valuable time may then be lost. The tendency to postpone a necessary operation is too prevalent. The average age of these operations is at present about 12 years, whereas it would be much better for the child and the eyes if it could be about 6 years, or younger. The family physician can be of great assistance in these matters.

Surgical intervention becomes necessary to correct convergent squint when the case is not suitable for orthoptic training, or when thorough trial of orthoptic training has not brought results (three to six months should be sufficient). Nothing can be gained by further delay, and the longer the operation is deferred, the less chance there is for the deviating eye to overcome the amblyopia.

The most widely performed surgical procedures of the past for the correction of convergent strabismus consisted of complete tenotomy of the internal rectus and advancement of the external rectus. The complete tenotomy served a purpose, but it has fallen into disrepute not only because of the many over-corrections and outward deviations which resulted, but also because of the loss of convergence power. To obviate these difficulties, partial tenotomies, graded tenotomies, and tenotomies with control sutures have been practiced extensively, but all of them have drawbacks.





CASE IV

Operation, recession and tucking right eye only, followed by orthoptic training.

At present, we are employing a procedure which we consider safer and more accurate than any of the above—the muscle recession as advocated by Jameson. Although he proposed this operation in 1922, it still is not as universally employed as it deserves. In this operation the tendon of the internus is severed at its insertion and reattached securely to the sclera by catgut sutures three to five mm. further back. As much as 25° of convergent squint may be overcome by a recession alone, but when the amount of the squint to be corrected is too much for a recession of one internus to overcome, then a recession of the other internus can be done; or an external rectus may be shortened. Several shortening operations are quite satisfactory, a tendon tucking, a resection, an advancement, or the cinch operation of O'Connor. Of these, we have favored the tucking or the resection because they have usually given us the desired results. Not always does one operation suffice, so it is a wise precaution to previously inform the patient or the parents that a second operation may later be necessary. Orthoptic training should be urged after operation, and it is here that I believe it serves its greatest purpose. If the operation has brought the images within the range of fusion, then the final cure by training is much more readily accomplished. In fact, many cases where surgery has given an excellent result need very little training.

It has not been the purpose of this paper to dwell on details. It is primarily my desire to awaken your interest in this subject, and to emphasize the importance of the early study and treatment of these cases. Since the results of treatment and surgery in cases of strabismus have of late years been so satisfactory, and any dangers attendant upon these operations are practically non-existent, we may all feel much safer in advising our patients to have done what seems necessary without fear of untoward results or dreaded complications.

Finally if for no other reason, the correction of strabismus is cosmetically imperative to the mental well being of these patients, especially of children. They are constantly embarrassed by their appearance, and ridiculed by their playmates. When the eyes have again been made straight, no one is ever more grateful than one of these deserving little patients.

DISCUSSION

Edward Jackson, M.D. (Denver): We who are working very largely in ophthalmology feel frequently that there is unnecessary indifference to important problems on the part of the general profession. There are two or three factors that con-

tribute to this. One is that the old authorities, that are still authorities, do not give the teachings that represent the ophthalmology of today. The older men who learned some things about strabismus twenty to forty years ago probably learned what was known then and had the best instruction they could have, but things have greatly changed, as they are greatly changing in other branches of medicine. This paper gives a very balanced account of the present state of our knowledge of convergent strabismus and of the widened field of therapeutic resources that have opened up to the profession.

The operation of recession I have never done myself and never saw it done until a few days ago. But it contrasts strongly with the old operation of dividing the internal rectus and letting Providence take care of the rest.

The attitude towards orthoptic training is changing constantly, by the more intelligent and persistent application of such training and the better methods available. Several important instruments that are of perhaps nearly equal value have been introduced for it. All are so new it has changed the situation with reference to the correction of convergent squint. The general profession ought to know this.

Convergent squint is enormously important, for children particularly. No one who hasn't followed the history of such a case, knows the difficulty of a child in school with cross eyes, and the impossibility of getting a proper psychological attitude toward his own condition and his own personality. He hasn't confidence and respect in and for himself because of constant reminders that he is different from others. That brings children to us much more enthusiastic about having their eyes straightened than are their parents—who ought to be better judges in the matter.

CHRONIC CERVICITIS AND ITS TREATMENT BY ELECTRO-SURGERY*

LYMAN W. MASON, M.D.
DENVER

The cure of cervicitis is predicated upon a correct knowledge of the anatomy and pathology involved. In the matter of definition and actual pathology, and excepting the occasional acute case, usually gonorrhea in the nullipara, by the time that the usual presenting symptom, leukorrhea, brings the patient to the physician, the condition is not an endocervicitis, but a cervicitis. That is, not only is the cervical mucosa with its associated glands diseased, but the mucosal stroma and often the muscularis is involved in the pathological process.

The cervix is about an inch long, extending from the external to the internal os. The latter is about 1 mm. in diameter, and the external os may vary from pin-hole size in the case of nulliparae or when constriction has occurred as a result of fibrosis from whatever cause, to an everted and gaping opening into which a finger may be introduced. Except in those cases in which it has been smoothed out by parturition or extensive instrumentation, the surface of the cervical canal is thrown into multiple folds by the plicae palmatae, two longitudinal outfoldings on the anterior and posterior aspects of the canal, from which radiate outward and slightly upward other outfoldings. Beginning just inside the external os, and extending to the internal os, the openings of the cervical glands present. These glands, differing from the simple tubular glands of the uterus, are of the compound racemose variety, and the mucosa of the cervix is honeycombed with them. Many of them extend through the mucosa into the muscularis, for the cervix has no submucosa.

Cervical damage may begin as an infection only, progressing to the chronic pathological stage described below, or it may begin in trauma, either as a result of childbirth or instrumentation. If the latter, infection is nearly always superimposed.

Examination of sections from cervices in these cases shows extensive pathology, which usually involves all the anatomical parts of the cervix, including the muscularis. However, when we consider treatment, we must remember that all of these processes had their beginning in the complicated endocervix, the diseased presence of which keeps the deeper lying processes active, just as a diseased tooth may keep a distant arthritis active. Indeed, there are many who consider a diseased cervix just as surely a focus of infection, with possible distant and far-reaching consequences.

Under the microscope there may be found newly formed, dilated capillaries, usually

*The author desires to express his thanks to Dr. Hyams for his past courtesies to him in his Clinic, and the personal instruction he gave in the use of this method, which he originated.

with round-cell infiltration. The glands are hyperplastic and hypertrophic, many of them dilated to form cysts. The epithelial cells may be increased to form infoldings encroaching upon the gland lumina, or the glands may be denuded in places. Often they are occluded by stratified squamous epithelium; this may completely fill the gland, obliterating it. This is Nature's attempt at healing. Other glands may be seen in which the squamous epithelium is growing down into the gland from the opening. This is the precancerous picture that we hear about, but the benign nature of the process, at least at this stage, is attested by the normal appearance of the cells themselves, and the orderly and normal character of the epithelium as a whole.

The periglandular stroma fibers are frequently separated by edema; they usually are, in fact. The deep stroma and even the muscularis is frequently the site of small to moderate areas of round-cell infiltration. If the condition is very chronic, a definite infiltrating fibrosis is evident. The entire cervix may show round-cell infiltration, and there are sometimes miliary small abscesses. If the glands are occluded at their orifices, by fibrosis or plugging with squamous cells, or pressure of surrounding tissues, cysts, which may be as large as a pea, are formed in considerable numbers, the so-called Nabothian cysts. and these may cause marked enlargement of the cervical lips. Many of these can frequently be seen in the cervix about the external os, and there may be others farther back which contribute to the cervical hypertrophy, but which can not be seen.

Macroscopically, in addition, there may be considerable erosion about the external os, sometimes involving in area the entire visible diameter of the cervix, and if there has been considerable laceration in childbirth, or by instrumentation, there will be more or less eversion of the cervical lips, structures which normally lie in the canal thereby presenting to the vagina and its secretions.

When one appreciates this extensive pathology of chronic cervicitis, the futility of certain forms of treatment become apparent. Topical applications to the diseased endocervix, or medicated tamponage are useless, because they literally only touch the surface of the pathology. Douches are useless—all that can be expected of any douch being that it will wash out what is in the vagina, and frequently it does not do even that.

Only some method of treatment which has for its purpose the removal of the chronically infected, fibrotic and cystic endocervix will effect a cure. Several procedures have been devised to accomplish this. They are cervical amputation, high and low; the Sturmdorf operation, which removes a cone of cervical tissue, the base of which is distal with the point at the internal os; cauterization with the actual cautery; electro-coagulation, and lastly the so-called conization operation of Hyams, which consists in the removal of the diseased endocervix by means of a specially constructed electrode and the cutting current. The Emmet operation makes little or no attempt to remove this diseased tissue; its chief aim is to restore the anatomical integrity of the lacerated cervix. It is for this reason that the operation falls to pieces so frequently during convalescence, and why it is attended by the lowest incidence of cures of leukorrhea of the methods mentioned.

Of the surgical procedures, the Sturmdorf operation has given the best results. It cures leukorrhea in a high percentage of cases (probably over 90 per cent), and is attended with the lowest incidence of undesirable after-effects, particularly stenoses.

Amputation of the cervix, even the low amputation, should not be done in women who desire to, or probably will have children. While the results so far as the leukorrhea and other cervical pathology are good in the high amputation, the remaining condition of the uterus is almost incompatible with a continuance of pregnancy to term, and stenosis of the remaining canal occurs in about half of the cases, necessitating troublesome and painful treatment, or hysterectomy. Both cures and complications occur less frequently with the low amputation, but abortions in these cases also are frequent.

Within recent years, the actual cautery has gained a wide use in the treatment of

cervicitis, and deservedly so. In general, the cervical canal is cauterized by means of a round aluminum electrode which works on the principle of the electric curling iron, or numerous linear cauterizations are made in the cervical canal by means of an electrode of the nasal cautery type. Of the two, the latter is preferable. Erosions and eversions, if the latter are not too extensive, as happens in extensive unilateral or bilateral lacerations of the cervix, are treated by radial relatively deep cauterizations of the cervical lips. The very mechanism of its action in curing eversions of the cervix is its weakest and most objectionable feature, so far as the canal is concerned, viz., fibrosis with subsequent contraction. This is frequently a most troublesome complication, necessitating dilatations of the canal for months after, and even then one can not be sure that further contraction will not occur. If, on the other hand, one's attention is directed too much toward this possibility, he frequently does not cauterize deeply enough, and then the cervicitis is not cured.

Other disadvantages of cauterization are that the depth of cauterization and tissue destruction, with even farther heat penetration, is indefinite and largely uncontrollable, and sometimes is sufficient to cause serious pelvic complications; also, since cauterization produces tissue necrosis and even carbonization, a slough forms as in any other third degree burn, and comes away during the next three weeks or so, much to the patient's esthetic and physical discomfort. It must be said, however, that when all of this is over, and if the complications do not occur, or if they have been adequately controlled, the results are generally good, and compare very favorably with the surgical results in these cases.

A newer method of destruction of cervical tissue by means of heat is that of electro-coagulation. It differs from cauterization in that in the former the heat is generated in the tissues themselves, due to the passage of a certain type of high frequency current between an indifferent electrode of large area placed against the skin somewhere, and the active electrode of relatively very small area, placed in or on the cervix. Increasing heat is generated in the tissues as the current is concentrated in a smaller and smaller pathway from the former to the latter.

While electro-coagulation has certain advantages over actual cauterization, it is subject to many of the same disagreeable features. Tissue is destroyed by it just as surely as by the actual cautery. Consequently where removal of a considerable depth of tissue is necessary for a cure, it must be destroyed to this depth, and an extensive slough forms and is gradually discharged, with the disagreeable features mentioned above in the discussion of cauterization. Bleeding is less likely to occur. Scar tissue formation with subsequent contraction and stenosis is a possible complication by this method also, but probably to a lesser extent than with cauterization. As in cauterization, the depth of tissue destruction is largely uncontrollable, except by the operator's experience.

A great advantage of electro-coagulation over cauterization is that since the heat is generated in the cervix itself, there is not the discomfort and actual pain from radiated heat to the sensitive vaginal walls which occure in the latter method, unless the vagina is specially protected. Also accidental burns of the soft parts do not occur, since the electrode remains relatively cool, and the procedure can be stopped instantly by interrupting the current at the foot-switch.

Other methods of treatment of chronic cervicitis, such as medical diathermy, the Elliott treatment, etc., are too uncertain in their results for consideration.

In 1927, Mortimer N. Hyams, of New York, perfected a method of treatment for chronic cervicitis which aims at removal of all the diseased endocervix, and if desired, parts of the muscularis also. He named this procedure conization, and it is done with specially constructed electrodes utilizing the high frequency cutting current. It is applicable to the great majority of cases of chronic cervicitis, excepting only those complicated by lacerations extensive enough to require surgical restoration. It is indicated postoperatively in many of these cases. It

is not indicated alone if pelvic pathology forms part of the picture.

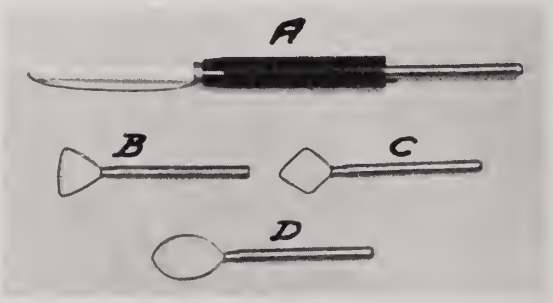
In compilations of statistics, cases of chronic cervicitis treated by this method show as good results as those on which the Sturmdorf operation was done, and the results are better, and the disadvantages fewer, than in those treated by cauterization, electrocoagulation, or any of the remaining surgical procedures. The remaining factor which gives it a most decided advantage even over the Sturmdorf operation is that conization is a relatively simple office procedure, as opposed to an operation requiring hospitalization with its accompanying expense, loss of time, and an anesthetic.

Two factors are essential for proper results with this method, viz., an electrosurgical unit which will generate a proper current, and a cutting electrode which conforms to the anatomy of the cervical canal and the endocervical structures.

The requisites of the unit are that it shall generate a fine, smooth cutting current with a minimum of coagulation. If the current is too intense, and the coagulating effect is too great, the effect will be one of electro-coagulation to an indefinite depth, or even cauterization and/or carbonization. The current should cut rapidly and smoothly, with just enough coagulating effect to control bleeding over the cut surface. Assuming that the unit used will generate such a current, one should experiment with the various electrodes upon pieces of raw meat, preferably lean, tough beef, until he determines just what control adjustments will provide it.

A photograph of the conization electrode is shown in A, Fig. 1. The distal end is a silicon rod, and the cutting wire is of tungsten, shaped to conform to the cervical canal, which is fusiform. It cuts the tissue to a depth equal to the distance between the silicon rod and the wire as the electrode is rotated. This again conforms to the depth of the endocervix, i. e., about $\frac{1}{8}$ inch. The cutting wire should not project beyond the end of the rod, otherwise it is likely to lie inside the internal os, and as the electrode is rotated, it will core out the internal os to a depth and diameter equal to the distance between the wires. Besides being unnecessary, separation of tissue here may give rise to hemorrhage. The metal end of the electrode fits into a chuck on an insulated universal handle, which in turn is connected through a swivel joint on the end to the wire from the terminal on the unit.

The other electrodes shown may be used for further removal of diseased tissue in cases of irregular lacerations about the internal os, or in the removal of diseased tissue when the cervical lips are everted and it can not be included in the tissue removed by the conization electrode. Their use fur-



Fix. 1, ×¾. A. Conization electrode. B, C, D, other electrodes used, particularly for biopsy.

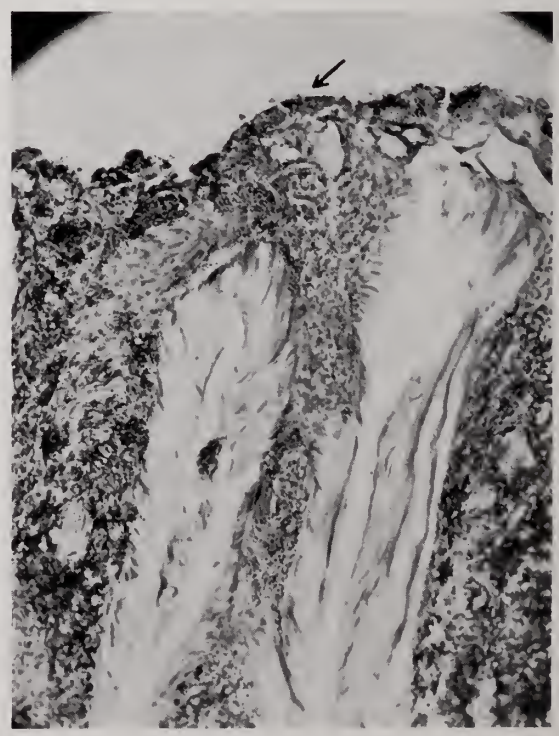


Fig. 2. Arrow points to cut edge, showing only slight coagulation of tissue from line of separation. Biopsy value unimpaired.

nishes the method par excellence for the securing of biopsy specimens, whether the tissue desired is in the form of excrescences upon the cervix, or when its surface is on a level with the cervical curvature, or imbedded within it. These last two are very difficult to secure with the knife or scissors, as everyone who has tried to do so knows. Here, particularly, the current must cut with the very minimum of coagulation, otherwise these small pieces of tissue will be worthless for biopsy. Bleeding can be stopped after the tissue is removed, if necessary, with one of the various coagulating electrodes, using the coagulating current.

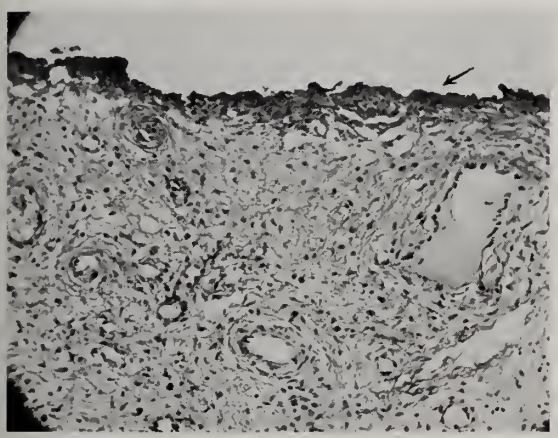


Fig. 3. Tissue removed by conization. Arrow points to cut edge. Improperly done with incorrect current adjustment. Coagulation throughout tissue. This means a long continued slough from cervix, as with cauterization, and tissue removed is worthless for biopsy.

No preoperative preparation of the patient is necessary. She is placed upon the table in the lithotomy position. A bivalve speculum is introduced and the cervix exposed. The light is better if one of the speculum light carriers is used, but this is not necessary. The vagina and cervical canal are wiped out with cotton pledgets, and then swabbed with hydrogen dioxide, after which they are thoroughly dried. A cotton wound applicator which has been soaked in a 50 per cent solution of cocaine is placed in the cervical canal for five minutes. The canal is again carefully dried. Fig. 3 shows very nicely what happens when the conization is done with the canal filled with blood (or other fluid). In addition to the arc which forms at the point of contact of the wire with the tissue, and which does the cutting, the current is carried from other parts of the cervix through the much less resistant fluid toward the wire, resulting in a coagulating effect in the hollow cylinder of endocervix removed, thus destroying its value for purposes of biopsy. The inactive electrode, consisting of a sheet of block tin about 6 x 8 inches, is placed on the patient's bare and moistened abdomen. When the conization is being done, she is instructed to make firm pressure upon it with her hands.

The depth of the cervical canal having been previously measured, the appropriate length electrode (they are made in three sizes) is selected. It is not usually necessary to hold the cervix with a tenaculum, as no pressure is needed on the electrode; one has only to follow the cut as the arc makes it. The point of the electrode is held in contact with the tissue at the external os and the current turned on. It is then introduced the length of the cervical canal as it cuts its way in. When the proper depth has been reached, the electrode is rotated through 360°, and the endocervix removed, usually in the shape of a hollow cylinder whose thickness is equal to the distance between the wire and the silicon rod. The tissue either adheres to the electrode as it is removed, or if it is not entirely intact, it may be removed with forceps, as it lies loose in the canal. Because of the accompanying surface coagulation, there is usually no bleeding, although sometimes a few drops appear in the canal. If it is thought that insufficient tissue has been removed, the process may be repeated.

When completed, the cleaned-out canal may usually be seen for its entire length, and appears grayish or brownish in color, depending upon how much coagulation has occurred. Fig. 2 shows how sharp and clean the cut may be made with proper current adjustment, and for what a short distance from the cut edge even slight dehydration of the tissues has occurred. It also shows how undamaged the remaining tissue is for purposes of biopsy.

One of the most important advantages of this method of removal of endocervical tis-

sue is the fact that it can be submitted for microscopical examination. Obviously this can not be done if it is removed by means of cauterization or electro-coagulation, and only poorly with cervical curettage. It is unnecessary to emphasize the importance of this whenever there is the slightest suspicion of possible malignancy, and it should be done routinely in patients nearing the age of 40. In this way, it is possible that some malignancies may be discovered in a very early stage, which would be considerably advanced by the time they were otherwise apparent, since a considerable number originate in the cervical canal at the junction of the squamous and columnar epitheliums.

If only conization is done, the next day a slight coagulum covering the cut surface can be seen. Sometimes there is a slight coagulum filling the canal, from exuded fluid. If added electro-coagulation is done on erosions about the external os, there may be a rather dense coagulum, such as we see after cauterization, covering the external os and extending a little way into the canal. This may be removed with the forceps. In most cases, if only the canal is coned out, the next day it is still entirely open.

Usually within a week the slight surface coagulum has been replaced by granulation tissue, and epithelialization is complete within four or five weeks. There has been no need for continuous dilatation to prevent contraction and stenosis, for no appreciable contraction has occurred. There has not been the long disagreeable period of slough separation and discharge. Because of the absence of scar tissue, the healed cervix is a normally functioning one, so far as parturition is concerned.

The principal advantages of this method of treatment of chronic cervicitis are summarized as follows:

1. It results in as high a percentage of cures as the Sturmdorf operation, which is the best of the surgical procedures.

2. It is a relatively simple office procedure, and at its completion, patients may leave immediately. It is practically painless. It obviates the necessity for hospitalization with the accompanying expense, loss of time, and an anesthetic.

3. The coagulating effect of the current is sufficient to control all bleeding in most of the cases. When it has occurred it has been slight.

4. Subsequent cervical contraction with danger of stenosis does not occur.

5. There is slight, if any, danger from pelvic cellulitis and infection, as occasionally occur after cauterization and electro-coagulation.

6. The removed endocervix may be used as a biopsy specimen.

In conclusion, I should like to propose that this procedure be called an endocervectomy. The term conization is neither a pathological nor a surgical one. It is not geometrically correct, since the tissue removed, if intact, is more in the shape of a hollow cylinder, and the cleaned-out canal is cylindrical—rather fusiform. The Sturmdorf operation, when classically done *is* a conization. It seems to me that the term endocervectomy is both correct and descriptive for this procedure.

CASE REPORTS

SPONTANEOUS SUBARACHNOID HEMORRHAGE IN AN INFANT OF FIVE MONTHS*

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DENVER

This is probably the first instance of spontaneous subarachnoid hemorrhage in an infant that has come to our attention in the Children's Hospital. That it occurs commonly in the newly born, young adults and especially in elderly patients, is well known. In some 230 case reports reviewed for this presentation, the youngest patient was 17 months of age. The information about to be given has been gleaned from a study of these scattered reports.

CASE REPORT

D. K., No. 18423, C. H., only child, born at term, January 12, 1935, hard forceps delivery, breast

*Given before the Rocky Mountain Pediatrics Society, April 13, 1935.

fed, entered the hospital April 12, 1935. He was born of young, healthy parents and, as the mother stated, "never had a sick minute until he was stricken March 29, at 2 a. m. with weakness of his legs and inability to nurse." The mother thought him sleepy and not inclined to take the feeding. At the 6 a. m. nursing he still refused the breast, seemed limp and could not cry out loudly, a thing previously he could do very well. The limpness, refusal of food, and listlessness was frequently interrupted by shrill, querulous cries. At 2 p. m. of the same day, he was seen by the family doctor who found a slight fever and inability to swallow. At this time his feedings were gavaged every four hours. It was found almost impossible to get his bowels to move either by enema or mild laxative. His bowels had always been regular until the onset of this illness. He had never vomited until a few hours before he died. Since he had mild fever and cried, the left ear drum being a little red, was punctured.

On admission the physical examination showed a large, well developed and well nourished baby whose sensorium was clouded. The skin was very pale, cold and clammy and every few minutes he emitted a sharp, shrill cry and protruded his tongue. He seemed more comfortable with the arms at right angles to the sides of his head. He had little power to move his head and the neck seemed a little stiff. The anterior fontanel was almost closed. No bulging could be made out.

The pupils were large and reacted to light slowly. Nystagmoid movements, with the sharpest component to the right, were best detected when viewing the eye grounds with the ophthalmoscope. These were found to be pale but stippled with many minute hemorrhages and several larger ones. Papillo-edema could not be detected. The veins seemed rather dilated.

No focal paralysis of the face muscles could be found. Within the pharynx, however, was found a pool of mucus which moved back and forth with respiration. The tongue moved in the midline but no gagging or swallowing reflex could be elicited.

Ears were normal except for evidences of a recent puncture of the drum without drainage, on the left side. The chest was normal except for large inconstant rhonchi. The heart seemed normal except that the rate was slow, 65 per minute. Abdomen, negative.

The knee jerks were sluggish, also the biceps. Plantar reflexes were absent, also the abdominal. There was no ankle clonus or Babinski. The arms and particularly the legs seemed flaccid and stayed where they were put. Nothing definite could be made out regarding sensation.

The laboratory work showed the urine to be normal except for a faint trace of albumin. The blood formula revealed: 95 per cent hemoglobin; R. B. C., 4,640,000; W. B. C., 6,700; polys, 23 per cent, lymphs, 71 per cent; eosinophiles, 6 per cent. Coagulation time, 3 minutes; blood Wassermann, negative. Spinal fluid, blood 4 plus; smear and culture, negative; calcium, 6 mg.; Wassermann, negative. Van den Bergh's test, quantity of spinal fluid not sufficient. Skin test for tuberculosis, negative with .1 mg. Throat culture, largely staphylococcus. Klebs-Loeffler, negative.

The following possibilities were recorded by the residents: (1) encephalitis following influenza, (2) birth injury, (3) tuberculous meningitis to be ruled out.

The baby entered the hospital at 7:45 p. m. April 12, and died at 5:30 p. m., the next day. The heart beat at 60 for several minutes after respiration ceased. X-ray examination of the head, chest, and abdomen after death showed no gross pathology.

Discussion

History of Spontaneous Subarachnoid Hemorrhage: The French have developed an extensive literature on this spontaneous type of hemorrhage, while physicians in other nations have written comparatively little. Apparently the first American article was by Samuel Leopold of the University of Pennsylvania in 1914 and the second by Josephine Neal in 1926. C. P. Symonds of Guy's Hospital, London, in 1924, cites seventy-seven references of this condition in a most comprehensive and very lucid article.

Definition: Spontaneous subarachnoid hemorrhage, such as caused the death of this infant, implies bleeding into the subarachnoid space either as a leakage or sudden hemorrhage because of a break in the continuity of one or more of the adjacent intracranial vessels which is not the result of trauma, local, acute or specific infection or blood dyscrasias.

Etiology: It is well recognized that intracranial hemorrhage in this location may be the result of a great variety of causes. It may occur in any type of meningitis but particularly syphilitic, tuberculous, and meningococcic. It has been observed in leukemia, purpura, hemophilia and whooping cough. It is equally obvious that bleeding may result because of a liquefaction necrosis through the walls of a vessel from an infected thrombus or because of malignant disease or the rupture of a cyst. In these days in which head injuries are so common, especially with skull fracture, trauma frequently causes intracranial hemorrhages. All of these causes are obvious. They are inflammatory, malignant, the result of a blood dyscrasia, or accidental.

There are certain cases of subarachnoid hemorrhages in which all of these factors can be excluded and to these the term "spontaneous" has been applied. This would leave only arterial disease and arterial aneurysms of non-bacterial origin to be considered. It is odd that this type of hemorrhage so often

occurs in young and otherwise healthy patients. For this reason the greatest interest has been manifested in its etiology and pathology.

The source of the bleeding is of interest. The space which lies between the arachnoid and the pia mater is called the subarachnoid space. Normally it is occupied by cerebrospinal fluid. It is in direct communication with the entire ventricular system. Within this space, supported by fine trabeculae, run the blood vessels. At the base of the brain, the veil-like arachnoid is but loosely attached to the pia mater, so that the Circle of Willis lies in a lake of cerebrospinal fluid. Because of these anatomical peculiarities an effusion of blood may originate in quite a variety of regions within the skull and yet appear in the subarachnoid space. One of the main sources of bleeding with the blood appearing in this basal lake is from the rupture of a meningeal vessel which traverses the space itself. On the other hand, hemorrhage may originate from a surface vessel of a cerebral hemisphere or one within the brain substance, breaking through the pia mater and appearing in the subarachnoid space. If the bleeding be profuse and the pressure great it may burst through the nervous substance and appear in a ventricle.

Signs and symptoms: As in all space-occupying lesions within the skull, their location, size and the speed with which they develop determine the resulting signs and symptoms. Aside from the mechanical effects of an intracranial hemorrhage there are certain chemical or inflammatory reactions somewhat similar to the response found when blood oozes into any serous cavity. The brain response is that of meningeal irritation resembling meningismus or meningitis. It almost always causes a moderate fever, very similar to that seen in hemothorax. There is often pain and stiffness in the neck, back or limbs, and Kernig's sign is present. All of these may be masked if the cerebral compression is severe.

The mechanical effects of pressure are well known and depend on the local pressure applied to the nervous substance in the immediate neighborhood of the hemorrhage. There is an immediate depression of the functions of the parts affected. An effusion over the motor cortex may cause Jacksonian epilepsy and then a hemiparesis upon the opposite side of the body. When bleeding occurs in the subarachnoid space it can diffuse or flow freely over a wide area so that the local effects of such hemorrhage are often transient and are replaced by a general increase of intracranial pressure. In the light of anatomical facts already given it is evident that a hemorrhage originating at the base of the brain is likely to become rapidly diffused showing few, transient, or no signs of local pressure either upon the cranial nerves or other nerve substance. Headache, mental excitement and confusion are common. With greater rise in pressure a state of coma and signs of medullary compression are followed by respiratory embarrassment and death.

The outstanding clinical symptoms which this little patient exhibited from the time of onset until his death should give the most valuable lesson of this presentation. The profound weakness of all his muscles, especially those of the legs together with muscular laxity and loss of reflexes, the pale eye grounds stippled with minute and large hemorrhages, the large pupils reacting slowly to light, nystagmoid movements of the eyes, the flaccidity of the head upon the neck, with a bloody spinal fluid under 420 mm. water pressure and jerky respirations should certainly lend weight to the diagnosis of a rather large hemorrhage at the base of the brain.

As was remarked on several occasions, the infant acted as if his neck were broken. Several examinations were made to exclude this possibility. The whole picture became clear when a large dissecting hemorrhage, with large clot formation filled the Circle of Willis like a waffle fills a waffle iron. The effusion probably started on the first day of illness increasing in amount, causing the inability to swallow, irritating the upper spinal nerves causing the arms to be held up to the sides of the head in the praying position. It caused restlessness, obstipation and pallor. It caused the limpness, loss of reflexes and the jerky respirations. It could account for the frequent protrussion of the

tongue. In short the whole clinical picture was identical with that seen in a newly born child with a subtentorial hemorrhage to which the name asphyxia pallida has been given and the patient looks like a corpse. There is little or no movement of any part of the body. There is very irregular and practically absent respiratory rhythm and yet the heart can be heard to beat feebly and slowly.

The diagnosis of spontaneous subarachnoid hemorrhage can only be made by excluding all of the well recognized causes of intracranial hemorrhage such as trauma, the various types of acute and chronic meningitis, malignant endocarditis, aneurysms and disease of the blood in which the clotting mechanism is faulty.

The spinal fluid is always under pressure and uniformly mixed with blood. It does not clot readily and when it stands the red cells settle to the bottom and the supernatant fluid is colored with blood pigment. This fluid has had no opportunity to be metabolized in the liver.

In accidental hemorrhage occurring at the time of lumbar puncture the first fluid that comes is the most bloody and becomes less so as more spinal fluid is withdrawn. Furthermore small clots of blood tend to occur in the fluid. Xanthrochromia never develops. These points are given because it is a common experience to blame ourselves or the residents when a bloody tap is obtained.

The prognosis in spontaneous subarachnoid hemorrhage naturally depends on the cause, its magnitude, location, duration and recurrence. If it occurs from a blood dyscrasia, sunstroke or some vasomotor disturbance, the extravasation is small, seldom recurs, is relieved by lumbar puncture and many patients recover.

It would seem that the younger the patients the less likely they are to get well. A break because of congenital weakness in the arterial walls or the development of small aneurysms (which are seldom if ever syphilitic in the intracranial vessels) usually continue to bleed until the child dies.

Treatment: Lumbar puncture is indispensable in diagnosis. It is equally indispensable in treatment. If the intracranial pressure can be relieved it is life saving. It relieves the headache and eases the respiratory embarrassment. All authors mention the use of hypertonic glucose as of possible value in reducing the spinal fluid pressure. Three per cent glucose as phleboclysis in our patient aggravated all the symptoms.

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Diphtheria Death-rate Lowered

A definite lowering of the death-rate from diphtheria in large cities of the United States is reported by the American Medical Association in its twelfth annual survey just completed.

Fifteen large American cities of the ninety-three covered in the survey had not a single death from diphtheria during 1934. They are as follows: Cambridge, Mass.; Canton, Ohio; Duluth, Minn.; Elizabeth, N. J.; Grand Rapids, Mich.; Long Beach, Calif.; New Bedford, Mass.; New Haven, Conn.; Salt Lake City, Utah; Seattle, Wash.; South Bend, Ind.; Spokane, Wash.; Springfield, Mass.; and Syracuse and Utica, N. Y.

The ten cities with the lowest death-rates from this disease in the last five-year period, according to figures published in The Journal of the American Medical Association, are Grand Rapids; Salt Lake City; Duluth; Seattle; Syracuse; New Haven; Yonkers and Rochester, N. Y.; Spokane; and Long Beach, California.

Also listed are the ten cities with the worst health records as regards diphtheria: Lowell, Mass.; Louisville, Ky.; Knoxville, Tenn.; El Paso, Texas; Chattanooga, Tenn.; Nashville, Tenn.; Atlanta, Ga.; Jacksonville, Fla.; New Orleans, La.; and Somerville, Mass.

X-RAY EVIDENCE OF INFECTION IN THE REGION OF THE DIAPHRAGM

Ability to recognize changes in the outline and behavior of the diaphragm due to infections either in the chest or abdomen presupposes a knowledge of the appearance of the normal diaphragm, both in motion and at rest. Such changes are better understood if the diaphragm is considered as consisting of two parts or halves, each supplied by its own nerve pathways.

The nerve supply is not only through the phrenic nerves, but stimuli also reach each half of the diaphragm through the solar plexus and intercostal nerves. These stimuli may originate in either the abdomen or chest.

With this in mind it can readily be seen that the list of pathological lesions which may affect the diaphragm will be rather large. These evidences consist of changes in the outline, position and motion, involving one or both sides.

Diagnosis must then depend upon a proper interpretation of the various manifestations. The outline of normal diaphragms varies but little. Position is much more variable, as is the degree of motility. A furrowed superior surface of the liver may cause some variation in outline, otherwise each dome is of quite constant shape.

It is well known that at rest, in a state of relaxation, the diaphragm is high. In addition to this, there are many lesions of an infectious nature which cause a high position of the diaphragm, usually with restricted or suspended motion. These may be either in the chest or within the abdomen. Lesions which cause low position of the diaphragm are few and are all within the chest.

There are non-infectious lesions which also influence the diaphragm but these are not under present consideration. Keeping in mind the rather complex nerve supply, it is readily conceivable why lesions within the chest or abdomen may influence either half of the diaphragm without involving its mate.

The position of the diaphragm will depend upon whether it is stimulated to contraction or its action suspended in a position of relaxation. The results are much the same whether the nerve impulses travel by way of the phrenic, the solar plexus, or the intercostal nerves. In some instances immobility is determined by the presence of adhesions, or other pathology, mechanically interfering with motion of the diaphragm. Again, immobility may be due to Nature's attempt to immobilize certain diseased structures either in the chest or abdomen.

Movement of the diaphragm may become limited or restricted to a point of complete immobilization by lesions more or less removed from it. Chief among those lesions within the chest which produce high positions are: Any type of pneumonia, empyema, tuberculosis, mycotic disease, pleuritis with or without fluid, malignant disease usually, atelectasis, pericarditis, etc.

Infections causing low immobilization are but few and are all within the chest; the chief of these is massive pleural effusion.

Abdominal conditions causing decreased mobility or complete immobilization are peritonitis, subphrenic abscess, infections of the gallbladder or liver, appendicitis and others. These must be differentiated from such non-infectious conditions as large tumors of the liver, peritoneal trauma, ascites, and intra-abdominal tumor.

In each case emphasis must be put upon the necessity for a carefully taken clinical history which must be correlated with any evidence revealed by the x-ray and thus add to the accuracy of diagnosis.—L. G. C.

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1. Midsummer Rocky Mountain Radiological Conference, August 4, 5, and 6, 1936.

2. The x-ray plainly shows the degree of fracture repair, which occurs by sub-periosteal and medullary osteogenesis. Proliferative periosteal repair tissue, together with medullary ebuernation designates soft tissue interferenc.

3. Did you know that there are three "malleoli"; the internal, the external, and the posterior? The third malleolus is the posterior external process of the tibia. It is often broken in ankle injuries because of posterior dislocation of the foot. The fragment is apt to unite and maintain a good joint surface if the foot is immobilized at right angles with inversion.

4. All humeral dislocations at the shoulder must primarily be below the acromion process. The S. I. T. (supraspinatus, infra-spinatus and teres minor) group of muscles attach to the greater tuberosity. Often the tendon or the belly of the supraspinatus is either torn or ruptured. The disability resulting is impaired abduction. X-ray examination may show a lessened space between the humeral head and the acromion. If the tendon is avulsed, secondary changes in the greater tuberosity at the site of detachment may be visualized in ten days to two weeks.

PUBLIC HEALTH NOTES

Federal Funds for Maternal and Child Welfare

In each state the responsible official through whom the federal funds for general health work will be administered is the state health officer. He is faced with a great responsibility and will undoubtedly need the

cooperation of all thinking citizens within his jurisdiction. It is obvious that, if the maximum sums authorized are appropriated and if matching appropriations are provided by state legislatures, state health departments will suddenly be possessed of larger sums than they have ever previously had to administer. Sudden expansion is always fraught with great danger. There is no time to experiment on a small scale, to test, to weigh, to modify, to adapt or perhaps to reject plans. Among the gravest problems will be that of qualified personnel. There is a great dearth of adequately trained health administrators, sanitarians, engineers, technicians, and public health nurses. The training provisions which will be found in the act will take time to put into effect.—W. W. Bauer, A.M.A. Bulletin, Dec., 1935.

Immunization in Scarlet Fever

The following conclusions were reached by Dr. John P. Koehler, Commissioner of Health, Milwaukee, Wisconsin, in a report on Recent Expericences in Scarlet Fever Control:

1. Immunization against scarlet fever with five doses of Dick scarlet fever toxin, is both effective and safe. Even children having only two doses had a case rate of fifteen per 1,000 compared to sixty per 1,000 for the unimmunized school children. Fear of reactions no longer justifies the opposition of private physicians and health departments to scarlet fever immunization.

2. Nose and throat cultures for the control of scarlet fever carriers may prevent some exposures and infections, in spite of the many uncertainties of this procedure.

3. Strict quarantine of scarlet fever patients prevents neither endemics nor epidemics, because too many patients remain carriers after release from quarantine. An absolute quarantine of entire families is probably responsible for more additional cases than the proper isolation and quarantine of only one patient. Scarlet fever quarantine is based more on tradition and expediency than on scientific facts.

4. The strict isolation of all children under seven years of age for six weeks during a scarlet fever epidemic not only reduces the number of scarlet fever cases, but also aids in the control of other childhood contagious diseases. The permanency of this improvement depends upon the percentage of immunes produced by the epidemic and immunization.

Public health officials have reason to point with pride to achievements in typhoid fever, smallpox and diphtheria control, but when it comes to the control of scarlet fever, they have been too easily satisfied with large and attractive isolation hospitals and the annual imprisonment for a period of three to six weeks of thousands of our most law abiding families.

More money for immunization and less for contagious disease hospitals should be the slogan of all progressive health departments.

BOOK REVIEWS

The Nervous Patient. A Frontier of Internal Medicine. By Charles Phillips Emerson, M.D., Research Professor of Medicine, Indiana University, Indianapolis. Philadelphia, London, Montreal: J. B. Lippincott Company. Price, $4.00.

This work is written for the general practitioner by an internist. Since the average nervous patient presents a medical as well as a psychiatric problem, an internist, particularly one so well versed in nervous disorders as Prof. Emerson seems to be, should have something very valuable to contribute. The book does contain much valuable information but, unfortunately, the material is so condensed that it will probably fail to hold the interest of the general medical reader. Nearly half the book is taken up with a survey of general medicine, including organic diseases of the central nervous system. For one who would properly weigh the relative importance of organic and functional factors in a given case, this section should prove useful although it has the defects inherent in a brief summary. The chapters dealing with the psychoneuroses are well done; those dealing with the psychoses are too brief to be of much value.

Despite the fact that the general practitioner, who is at all interested, has standard texts at his disposal, many a specialist, prompted no doubt by true missionary zeal though abetted by a publisher with less disinterested motives, succumbs to the urge to write a book. All too often, the result is just another textbook or, worse, just another synopsis. This particular work, however, is better than the average of its kind.

LUMAN E. DANIELS

The Stomach and Duodenum. By George B. Eusterman, M.D., F.A.C.P., Head of Section in Division of Medicine, The Mayo Clinic, Professor of Medicine, The Mayo Foundation for Medical Education and Research, Graduate School,

University of Minnesota; and Donald C. Balfour, M. B. M. D. (Tor.) LL.D., F. A. C. S., F.R.A.C.S., Head of Section in Division of Surgery, The Mayo Clinic, Professor of Surgery, The Mayo Foundation for Medical Education and Research, Graduate School, University of Minnesota; and Members of the Staff: The Mayo Clinic and The Mayo Foundation for Medical Education and Research, Graduate School, University of Minnesota. Philadelphia and London; W. B. Saunders and Company. 1935. 913 pages. Price, $10.00.

It is apparent that a volume of this size, devoted to two such important structures in the gastrointestinal tract and written by men universally recognized as authorities in this field will be received with considerable anticipation by all who even have a casual interest in gastro-enterology.

The background of this work is the large volume of material available for study at the Mayo Clinic, although ample reference to the work of others will be found. Bias is avoided by including the work of those with sufficient background of experience and mature judgment to allow proper evaluation of controversial phases of the subject. Radical viewpoints are avoided, particularly in considering the problem of peptic ulcer. One might anticipate an undue leaning toward the surgical treatment of ulcer, but such is not the case. In fact, agreement with Moynihan's statement of 1932 which they quote, "that the failure of medical treatment (of duodenal ulcer) is attributable to its insufficiency, and that very few patients received any treatment which offered a reasonable prospect of healing the ulcer," seems to be complete. Such a statement from a pioneer in the surgical treatment of ulcer is significant and the sanctioning of this viewpoint by a surgeon with the experience and judgment of Balfour adds great weight. They state further that "members of the medical profession are becoming increasingly cognizant of the fact that early diagnosis and prompt, adequate treatment (of duodenal ulcer) are all important . . . that once the lesion becomes sufficiently chronic, the patient must be given the same consideration, and the same thorough, supervised treatment that is given to the diabetic, tuberculous or nephritic patient, even though the prognosis in the average case of ulcer is distinctly more favourable." The importance of adequate consideration and care of the neuro-psychiatric phase of ulcer bearing patients is stressed. Although criticism of the chapter on medical treatment of ulcer has been made, there is no doubt in my mind that all of the really important phases have been adequately considered and that the factors which long experience have proved to be vital to successful treatment have been properly stressed.

The newer "injection treatments" such as Larostidin, Synodal, emetin, etc., and mucin are considered in brief and put in their proper place as "Other Methods of Medical Treatment." Stripped of sales talk and undue enthusiasm, the proof of their occupying an important place in treatment will not stand the critical evaluation of the experienced clinician up to the present time, although all agree that such a form of treatment, if effective, would be highly desirable.

The radical surgical viewpoint of the continental surgeons toward benign lesions of the duodenum, chiefly ulcer, such as gastric resection as a primary procedure, is not held by the authors. The principle of "not burning the bridges behind you" seems to be most sound, logical, and timely.

The authors again emphasize the difficulty of being certain that any gastric lesion, especially ulcer, is benign and stress very effectively by means of illustrative cases the disastrous results of assuming benignancy over any extended period of time unless almost unimpeachable proof exists, clinically and roentgenologically, that the lesion has disappeared under medical treatment. The mere subsidence of gastric symptoms and diminution in size of the ulcer crater roentgenologically is often responsible for unwise procrastination and may allow a given lesion to pass the stage of operability under the very eyes of the attending physician.

The importance of thorough investigation including x-ray studies of the gastro-intestinal tract of all patients with local symptoms or evidences of progressive failure in general health, such as weight loss, anemia, etc., is adequately stressed, bearing in mind always that extrinsic factors are frequently responsible for gastro-intestinal symptoms. That gastric cancer in its early, operable stages gives rise to few symptoms and signs and its discovery depends almost wholly upon roentgenologic studies, especially by an individual experienced in palpatory fluoroscopy, is prominently emphasized.

A scholarly chapter on the history of the development of our present knowledge of diseases of the stomach and duodenum is written by Wilbur. Alvarez treats in a very interesting and instructive way applied physiology. F. C. Mann reviews his extensive and important work on experimental ulcer. MacCarty discusses the surgical pathology of the stomach and duodenum, a subject which he is peculiarly fit to review after more than twenty-five years experience of intensive study of an enormous amount of material. Robertson brings out very important and fundamental pathologic considerations from a necropsy standpoint, particularly emphasizing the great frequency of active and healed duodenal ulcers in routine autopsies (between 11-12 per cent). Kirklin vividly describes and adequately illustrates the roentgenologic manifestations of gastric and duodenal lesions. He emphasizes the importance of proper technic and the absolute necessity of abdominal palpation while the patient is behind the fluoroscopic screen in order to bring out posterior wall lesions and otherwise study the internal topography of these hollow organs. It is extremely rare that films add information from a diagnostic standpoint but on the contrary may introduce an element of confusion. Films serve the chief purpose of being a permanent record. Lundy discusses a very important factor in successful gastric surgery-anesthesia.

The fact is brought out that the chief clear indications for surgical intervention in duodenal ulcer are (1) perforation, acute, subacute or chronic; (2) obstruction, especially the cicatricial type; (3) failure to respond to adequate medical treatment which includes severity of symptoms and economic and occupational factors. Hemorrhage unless it continues to recur in spite of adequate medical treatment and removal of foci, is not necessarily an indication for operation. Hemorrhage is very apt to recur postoperatively unless the bleeding lesion is removed or destroyed, and may even then, due to a recurrent or undiscovered lesion elsewhere. Paradoxical as it may seem, the longer the lesion has been present, the more severe the symptoms and the older the patient within limits, the more marked the relief offered by surgery and the more permanent the result. The younger the patient the higher the incidence of poor results and recurrence. The high incidence of an undiscovered second ulcer

on the posterior wall of the duodenum as a cause of persistent trouble postoperatively is stressed.

The authors explain the general reaction of the profession against gastro-enterostomy as being due to poor selection of cases for the operation. Done on the basis of proper indications, they feel that the incidence of jejunal ulcer should not be over 2 to 4 per cent. Gastro-enterostomy is still by all odds the operation of choice in the patient past 40 with a long-standing obstructing duodenal ulcer, especially if the obstruction is due to a healed ulcer with cicatricial stenosis and a large atonic stomach. Pre-operative correction of the toxemia associated with pyloric obstruction, including frequent gastric lavage or Wangensteen drainage, is of utmost importance.

The different types of gastric resection for carcinoma and ulcer are carefully discussed as to indications, technic, etc. Important chapters on sequelae and complications after gastric and duodenal operations take up the diagnosis, prognosis and method of management of these complications in detail. That jejunal ulcer may follow the Billroth II type of operations in almost as great a percentage of cases when done for duodenal ulcer as after gastro-enterostomy, is emphasized. Jejunal ulcer rarely occurs following operations for gastric ulcer or cancer.

Walters discusses total gastrectomy, Harrington all phases of diaphragmatic hernia, Helmholz considers hypertrophic pyloric stenosis and Rivers, hemorrhage. The blood picture following gastric surgery is the subject of a discussion by Hartman. In the final chapter Lemon gives a detailed description of postoperative pulmonary disease, the complication which together with peritonitis accounts for most of the postoperative deaths in upper abdominal surgery especially that for gastro-duodenal disease.

A thorough study of this volume cannot fail to lead to a clearer understanding of how best to handle the problems in connection with patients suffering from gastro-duodenal disease.

L. S. FAUST.

Growing Superior Children. By I. Newton Kugelmass, M.D., Ph.D., Sc.D., Attending Pediatrician of the Broad Street Hospital, French Hospital, and Heckscher Institute, New York; Consulting Pediatrician of the Lynn Memorial and Monmouth Memorial Hospitals, New Jersey; Author of "The Story of Infancy," "Clinical Nutrition and Feeding in Infancy and Childhood," etc. 568 pages, 54 illustrations and 51 tables. New York and London: D. Appleton-Century Company. Price $3.50.

This voluminous book was written essentially for lay people and especially for parents. It consists of four parts, dealing respectively with the newborn, infant, childhood, and adolescent. The chapter headings, such as "Feeding the Newborn Scientifically" and "Preventing Babies' Disturbances," are most alluring. However, one is apt to be disappointed in the contents of these chapters. They are written too scientifically for the layman and not scientifically enough for the physician. The book contains a glossary of over eight pages attempting to define medical terms to the laity. Perhaps the most objectionable part of the book is the chapter dealing with the determination of the formula for the newborn. I am afraid that many parents would have a difficult task "Growing Superior Children," if the author's suggestive formulae were routinely used. Another chapter deals with such common complaints as colic, vomiting, constipation, diarrhea, acidosis, common colds, nasal catarrh, sore throat, eczema, impetigo, and teething. For all these the author offers home remedies for the prevention and cure. Needless to say that the parents who believe all that they read have in store for them many disappointments. Other chapters dealing with habit training of the child and the cultivation of social behavior of the adolescent are interesting and should be helpful.

M. M. GINSBURG.

The Human Foot. By Dudley J. Morton, M.D., Associate Professor of Anatomy, College of Physicians and Surgeons, Columbia University, New York. Columbia University Press, 1935. Price $3.00.

In this very interesting volume Dr. Morton has made a thorough study of the evolutionary development, the anatomy, the physiology, and functional disorders of the human foot. He considers the foot, not as a separate part, but as a unit of the complicated apparatus of locomotion.

The author has traced the origin of the human foot from the earliest vertebrate fishes, through the amphibian, reptilian, mammalian and early primate forms of life. The gradual adaptation of the foot for terrestial use has been carefully studied and compared with the anthropoids. The evolutionary development from a flat, flexible, grasping foot to a rigid, powerful, arched leverage for weight-bearing is demonstrated with very practical illustrations.

In the second part, the physiology is studied especially in its relationship to functional disorders. The author has determined the distribution of body weight on the foot in stance, walking, and running. He has shown that this distribution is an important factor in establishing the normal axis of balance and leverage of the foot. The sustentaculum tali also has a very important function to perform in distributing the bodyweight through the foot. When this force is deviated, the axis of balance, as well as the axis of leverage, is distorted, resulting in functional strains. With the staticometer, tests were made which revealed that all heads of the metatarsal bones make contact, thus the idea of an anterior or transverse metatarsal arch is refuted. The angle of gait has been evaluated from careful studies on African natives and many individuals with civilized foot habits. This section constitutes much original research into the physiology of the human foot.

In the third section of this volume, the functional disorders are thoroughly investigated. An analysis of one hundred and fifty cases was made by taking x-rays, anatomical measurements, inked foot prints, and by performing various functional tests. From these examinations it was concluded that shortness of the first metatarsal bone, posteriorly located sesamoid bones, dorsal hypermobility of the first metatarsal segment, variation in supinator pronator strength and shortening of the calf muscles were the morphological and physiological factors causing functional disorders. The treatment of these functional disturbances is quite revolutionary, and the application of such principles should be means of alleviating the countless number of foot sufferers.

Such a monograph as this is a very valuable contribution to the orthopedic problems relative to the foot. Everyone interested in foot disorders should make themselves acquainted with its text so that a better understanding may be had in the welfare of a prevalent malady.

GEORGE K. COTTON, M.D.

Medical Organization

Plan Now to Attend Spring Clinics

REMEMBER the dates of the Spring Postgraduate Clinical Session at Pueblo—April 29, 30, and May 1. Plan to take three days off from active practice, brush up on practical subjects, renew state-wide acquaintances, and enjoy notable social events.

These, like the Midwinter sessions in Denver, are sponsored by the Colorado State Medical Society through its Committee on Postgraduate Clinics. Different from the Denver sessions, however, evening dinners, and attractive entertainments are included as the special offering of the Pueblo County Medical Society to the members of the State Society.

Programs will be mailed to all members of the State Society about ten days or two weeks in advance of the session.

Beware of Cheap Mail-Order Insurance

THIS warning has been issued before, many times, and in these same columns. "There is nothing new under the sun" about life insurance mortality rates or the plain arithmetic of assets and liabilities, but there seems to be always a new way of dressing up a worn-out scheme for getting other people's money, and lately there has been a new epidemic of mail-order life insurance schemes "specially designed for doctors" that justifies a repeated warning.

For legal reasons, names may not be mentioned in this discussion.

Probably half the physicians in Colorado recently received attractive brochures and mail solicitation from a mid-western insurance company of high-sounding name (this kind of company always adopts a name just as nearly as possible to duplicate the name of some well-established company). Investigation by a Denver insurance agency brought the statement from the Director of Insurance of the mid-western state's government that this life insurance company, by its own annual statement, had total assets of $1,557.00 and liabilities of $1,021.00. Yet it was glowingly offering "special" policies to physicians. It is an assessment company, too, though that fact is carefully concealed in its literature.

Another—

"Dear Doctor: Here is a special offer—available only to physicians. . . . non-cancellable policy . . . two hundred a month for total disability from either sickness or accident . . . one hundred for non-confining disability . . . costs only five dollars a month . . ."—just to quote a few of the fine phrases in the letter. This company also closely counterfeited the name of a real insurance firm. Investigation brought the word from the Board of Insurance Commissioners of that state that the company had "total admitted assets of $500.00."

Those are only two of a dozen examples which could be cited. It should be unnecessary to note that none of the companies is licensed to carry on an insurance business in Colorado. They can write insurance in Colorado only by mail from their home offices.

Perhaps some of these companies are perfectly honest and sincere, trying to build up from the bottom and create a worthwhile business. Perhaps. The insurance laws of many states are as strict as banking laws, and require a large paid-in capital by those who wish to start in the insurance business. But the laws of some other states permit the organization of the kind of insurance companies now delivering salves of multi-colored promises to Colorado physicians.

Beware of the mail-order insurance company which offers a policy, of any kind of insurance, at bargain rates.

Scholarships In Public Health

AS we go to press, Dr. M. F. Haralson, Acting Secretary of the State Board of Health, announces that he has available a limited number of three-month scholarships for graduate physicians who are interested in preparing themselves for full-time county health officer positions. Each scholarship will pay transportation from the physician's home to a recognized school which trains public health officers, will pay tuition, and pay a nominal salary for the three-month period. Those interested should write to Dr. M. F. Haralson, State Board of Health, State Office Building, Denver.

Obituary

Charles A. Trumbauer

Following an illness of several months, Dr. Trumbauer passed away from the effects of apoplexy, on Feb. 4, at the Presbyterian Hospital.

He was born in Pennsylvania in 1871. After being graduated from Iowa Medical School he practiced in that state. Since 1917, he resided and practiced in Denver.

Survivors include his wife, two sons, Philip and Meredith; a daughter, Louella, all of Denver; and two brothers and five sisters in Waterloo, Iowa.

MEDICAL SOCIETIES

COLORADO OPHTHALMOLOGICAL SOCIETY

October 19, 1935

George H. Stine, M.D., Presiding

Dr. V. H. Brobeck presented the case of a twenty-four year old female who developed cataracts following the use of dinitrophenol.

Dr. G. H. Stine presented a case of anterior choroiditis, probably tuberculous in which x-ray therapy was of benefit.

Dr. G. H. Stine presented a case of acute glaucoma secondary to hypermature Morgagnian cataract, not dislocated.

Dr. G. H. Stine also presented a case of traumatic paralysis of the left superior oblique following the removal of an anterior ethmoid mucocele.

Dr. E. B. Swerdfeger reported a case of luetic ophthalmoplegia of the left eye.

GEORGE H. STINE,
Recorder.

DELTA COUNTY

At the regular meeting of the Delta County Medical Society held January 31, officers for the year 1936 were elected as follows: President, Dr. L. L. Hicks, Jr.; vice president, Dr. A. H. Gould; Secretary and Treasurer, Dr. E. R. Phillips.

Dr. R. A. Underwood was the principal speaker and read a very interesting paper on "Inflamatory Disease of the Lower Abdominal Regions."

E. R. PHILLIPS,
Secretary.

* * *

FREMONT COUNTY

Dr. R. C. Adkinson of Florence delivered the paper of the evening at the January 27 meeting of the Fremont County Medical Society held in Canon City. Dr. Adkinson spoke on "Hyperinsulinism."

Dr. L. E. Rupert was chosen president of the Society for 1936. Dr. Kon Wyatt, vice president, and Dr. Archie Bee, Secretary and Treasurer.

A. BEE,
Secretary.

LARIMER COUNTY

Dr. J. B. Walton and Dr. G. Heusinkveld of Denver were the guest speakers at the February 5 meeting of the Larimer County Medical Society. A dinner at the Lincoln Hotel in Loveland preceded the meeting. Dr. Walton discussed "Problems of the New Born," and Dr. Heusinkveld "Problems of Obstetrics."

THAD C. BROWN,
Secretary.

* * *

NORTHEAST COLORADO

The Northeast Colorado Society extends its thanks and appreciation to Drs. Chesmore Eastlake and Philip Work of Denver, who presented the program at the meeting of that Society held at Sterling, February 13.

The scientific meeting was preceded by a dinner at Schell's Restaurant. Dr. R. J. Ralston was elected to membership in the Society at this meeting. Dr. Eastlake presented "Differential Diagnosis of Influenza," and Dr. Work "What the Patient Calls Nervousness." Dr. B. E. Grossman of Denver accompanied Drs. Work and Eastlake on the trip.

E. P. HUMMEL,
Secretary.

* * *

PUEBLO COUNTY

The January 21 meeting of the Pueblo County Medical Society was held at the Vail Hotel in Pueblo. Dr. E. D. Burkhard was the principal speaker and presented "A Medical Survey of 1935."

The first February meeting was held February 4. At the February 18 meeting Dr. Harry Baum of Denver was the guest speaker and Dr. B. E. Konwaler presented "Some Studies in Anemia."

J. W. WHITE,
Secretary.

* * *

SAN JUAN

The annual election of officers took place at the January 11 meeting of the San Juan Medical Society. The meeting was held at Mercy Hospital after a banquet at the Strater Hotel in Durango. An interesting talk was given by Dr. E. C. Condit, who told of his recent visit to the Mayo Clinic.

Dr. R. W. Calkins was chosen president, Dr. H. A. Lingenfelter, vice president, and Dr. Charles L. Mason, Secretary and Treasurer.

CHAS. L. MASON,
Secretary.

* * *

A. C. S. SECTIONAL MEETING

Omaha, Nebraska, will be the scene of the American College of Surgeons Sectional Meeting this month, March 11, 12, and 13. States included in the section are Nebraska, Colorado, Wyoming, Iowa, North Dakota, South Dakota, Kansas, and Minnesota.

Announcements from the College emphasize that the medical profession at large is invited to the meeting, regardless of fellowship in the College, and that there will be no registration fee. Preliminary announcements note that Drs. Edward Jackson and T. E. Carmody of Denver will have places on the program, which includes three days of operative and non-operative clinics, round-table conferences, general scientific sessions, motion picture demonstrations, and business meetings.

WOMAN'S AUXILIARY

DENVER COUNTY

The auxiliary met on Monday, February 17, at the Nurses' Home of the Denver General Hospital. A delicious tea was served by the following hostesses: Mrs. W. C. Black, chairman; Mesdames R. K. Dixon, L. S. Faust, H. S. Finney, L. W. Frank, G. H. Gillen, W. H. Halley, H. B. Henderson, J. G. Hutton, G. Jelstrup, M. Jobe, G. B. Kent, G. P. Lingenfelter, C. McLauthlin, J. P. Packard, Jr., G. L. Pattee, E. W. Perrott, Jr., J. B. Perrin, E. A. Schmidt, and L. C. Wollenweber.

Mrs Martin Herstrom gave a most charming and entertaining talk on Mexico. Mrs. Louise Bretschneider's Spanish songs were delightful.

The annual Presidents' Day will be held on Monday, March 16. The courtesy committee for the day will consist of the last three presidents, who are Mrs. Arnold Minnig, Mrs. J. A. McCaw, and Mrs. H. R. McKeen.

The dinner dance which the auxiliary gives every year will be on Saturday, April 25, at the Lakewood Country Club. Mrs. H. J. Corper, Chairman, will be most ably assisted by a committee.

MRS. W. C. WOODCOCK,
Publicity Chairman.

TWO COUNTIES HEARD FROM!

Since the last issue of Colorado Medicine, two county auxiliaries have been heard from. They, perhaps in common with other auxiliaries, have an idea that we only want to hear from them if they have accomplished a stupendous undertaking. This is not true. We want to hear from you often if you have to say that you had a meeting at someone's home and brought your sewing. We can't all do big things all the time and there is so much in between that is only for pleasure to ourselves. If each county would write up these little friendly meetings it would be interesting to the others and we would have a nice newsy page.

Mrs. J. U. Siekenberger of Grand Junction writes that their meetings are held only for friendship and the mutual pleasure of the members. That is certainly the first aim of every auxiliary. She says their meetings are at night and begin with a very enjoyable dinner; a social evening follows.

The Arapahoe County Medical Auxiliary has had four meetings since its organization last year. Mrs. H. B. Catron, the president, has been in the chair each time. Mesdames Catron, H. H. Alldredge, and John Denious have each entertained the group at their spacious homes, serving refreshments to the doctors after the County Medical Society meeting. The meetings have been both social and intellectual. At the last meeting Mrs. C. O. Eigler reviewed "Second Hoeing" by Hope Williams Sykes, a story of the Colorado beet fields. Arapahoe's efficient County Health Nurse told the members about the health work in the county.

Your state editor thanks you and hopes more county organizations will remember Colorado Medicine and send their newsy letters and items for our page.

MRS. ARNOLD MINNIG,
State Editor and Publicity Chairman.

Immunity in Poliomyelitis

In discussing a series of papers on poliomyelitis, presented at the recent meeting of the American Public Health Association, Dr. James P. Leake, Senior Surgeon, United States Public Health Service, made the following remarks:

"It was not my intention to participate in this discussion, but since my name has been mentioned, I must state that I did not express a belief that the vaccine was not responsible for Case 10. In any individual case the possibility should be left open that natural infection was operative, but the meaning of the series as a whole is clear to me, and I beg you to desist from the human use of this vaccine. According to my count of the onsets, one fatal case occurred six days after the second dose, another fatal case six days after the second dose, another fatal case six days after the second dose, and twelve days after the first dose, two paralytic cases and one fatal case eight days after the first dose, another fatal case ten days after the first dose, a paralytic case eleven days after the first dose, and another paralytic case fourteen days after the first dose.

"In each instance in which the site of the injection and the site of the first paralysis is known, the latter occurred either in the limb injected, or in the corresponding limb of the opposite side; in other words, the cells of the spinal cord first involved were at the same level as the injection. The anatomists tell us that the lymph streams accompanying the peripheral nerves do not enter the vertebral canal, so that there is no direct connection between the blood or lymph supply of a limb and the corresponding level of the spinal cord. These cases would therefore tend to show, what experimental work has already indicated, that the virus of poliomyelitis travels along the nerve fibers themselves."

Sir Jonathan Hutchinson, who is known today on account of "Hutchinson's triad" (interstitial keratitis, notched teeth, labyrinthine disease) in syphilis, saw over a million such cases.

COLORADO STATE MEDICAL SOCIETY

Officers, 1935-1936

President: Walter W. King, Denver.

President-elect: A. J. Markley, Denver.

Vice Presidents: First, L. W. Bortree, Colorado Springs; Second, Herman C. Graves, Grand Junction; Third, A. C. Sudan, Kremmling; Fourth, C. W. Bixler, Erie.

Constitutional Sec'y.: J. S. Bouslog, Denver (1936).
Treasurer: J. B. Hartwell, Colorado Springs (1938).
(The above officers constitute the Board of Trustees of the Society.)

Executive Secretary: Mr. Harvey T. Sethman, 537 Republic Bldg., Denver; telephone KEystone 0870.

Delegates to American Medical Association: John W. Amesse, Denver (1936); Alternate, John B. Crouch, Colorado Springs (1936); Harold T. Low, Pueblo (1937); Alternate, John Andrew, Longmont (1937).

Councillors:		Term Expires
District No. 1	F. W. Lockwood, Fort Morgan	1936
District No. 2	Ella A. Mead, Greeley	1936
District No. 3	George P. Lingenfelter, Denver, Chairman	1936
District No. 4	C. T. Knuckey, Lamar	1938
District No. 5	W. L. Newburn, Trinidad	1938
District No. 6	C. Rex Fuller, Salida	1938
District No. 7	A. L. Burnett, Durango	1937
District No. 8	Lee Bast, Delta	1937
District No. 9	W. W. Crook, Glenwood Springs	1937

Standing Committees, 1935-1936

Credentials: J. S. Bouslog, Denver, Chairman; O. E. Benell, Greeley; O. B. Rensch, Durango.

Scientific Work: Philip Hillkowitz, Denver, Chairman; Thad P. Sears, Denver; Atha Thomas, Denver.

Arrangements: W. W. Crook, Glenwood Springs, Chairman; R. B. Porter, Glenwood Springs; Warren H. Twining, Aspen; F. A. Humphrey, Fort Collins.

Public Policy: William H. Halley, Denver, Chairman; Gerrit Heusinkveld, Denver, Vice Chairman; Hamilton I. Barnard, Denver; Maurice Katzman, Denver; W. T. Brinton, Denver; C. H. Boissevain, Colorado Springs; J. S. Norman, Pueblo; Charles H. Platz, Fort Collins; George H. Curfman, Salida; W. W. King, Denver, ex-officio; J. S. Bouslog, Denver, ex-officio; Mr. H. T. Sethman, Denver, ex-officio.

Publication: C. F. Kemper, Denver (1936), Chairman; C. S. Bluemel, Denver (1937; Osgoode S. Philpott, Denver (1938).

Medical Defense: Frank B. Stephenson, Denver (1936) Chairman; Edward Delehanty, Denver (1937); T. E. Beyer, Denver (1938).

Medical Education and Hospitals: John Andrew, Longmont, Chairman; G. E. Calonge, La Junta; John G. Ryan, Denver.

Library and Medical Literature: Gerald B. Webb, Colorado Springs, Chairman; Frank R. Spencer, Boulder; John W. Amesse, Denver.

Cooperation With Allied Professions: John R. Evans, Denver, Chairman; Herbert A. Black, Pueblo; B. B. Jaffa, Denver.

Medical Economics: W. Walter Wasson, Denver, Chairman; Jack G. Hutton, Denver; Philip Hillkowitz, Denver.

Necrology: A. C. McClanahan, Delta, Chairman; Jefferson C. W. Davis, Denver; Charles B. Dyde, Greeley.

Special Committees, 1935-1936

Postgraduate Clinics: W. T. H. Baker, Pueblo, Chairman; John M. Foster, Jr., Denver; John B. Davis, Denver; G. M. Blickensderfer, Denver; L. N. Myers, Cheyenne Wells.

Cancer Education: Lyman W. Mason, Denver (1936); C. T. Ryder, Colorado Springs (1936); J. B. Hartwell, Colorado Springs (1936); George H. Curfman, Salida (1937); George A. Unfug, Pueblo (1937); J. E. Naugle, Sterling (1937); Carl W. Maynard, Pueblo (1938); Harry S. Finney, Denver (1938); Sanford Withers, Denver (1938).

Tuberculosis Education: Charles O. Giese, Colorado Springs, Chairman; W. N. Beggs, Denver; H. J. Corper, Denver.

Advisory to the School of Medicine: N. A. Madler, Greeley, Chairman; W. W. Haggart, Denver; R. W. Hoyt, Denver; Philip W. Whiteley, Denver; W. B. Hardesty, Berthoud.

Advisory to the Board of Health: John W. Amesse, Denver, Chairman; Ralph S. Johnston, La Junta; Lawrence D. Dickey, Fort Collins; Ralph H. Verploeg, Denver; D. A. Vanderhoof, Colorado Springs.

Advisory to the F.E.R.A.: F. Julian Maier, Denver, Chairman; F. A. Humphrey, Fort Collins; W. A. Campbell, Jr, Colorado Springs.

Military Affairs: G. P. Lingenfelter, Denver, Chairman; Nolie Mumey, Denver; Duane Hartshorn, Fort Collins.

Gratuitous Medical Services: Lorenz W. Frank Denver, Chairman; R. W. Arndt, Denver, Vice Chairman; T. D. Cunningham, Denver; F. O. Kettlekamp, Colorado Springs; Royal H. Finney, Pueblo.

Rocky Mountain Joint Session, 1937: G. P. Lingenfelter, Denver, Chairman; Nolie Mumey, Denver; Claude Cooper, Denver; Harold T. Low, Pueblo; Lawrence L. Hicks, Delta.

Delegates to Colorado Council of State-wide Health Agencies: W. H. Halley, Denver; Harry A. Alexander, Boulder.

Constituent Societies Meeting Dates; Secretaries

Adams County—Quarterly, date set by president and secretary; secretary, J. C. Stucki, Brighton.

Arapahoe County—Last Monday of each month; secretary, N. Paul Isbell, Englewood.

Boulder County—Second Thursday of each month; secretary, Warren M. Gilbert, Boulder.

Chaffee County—First Tuesday of each month; secretary, L. E. Thompson, Salida.

Clear Creek Valley—Second Tuesday of each quarter; secretary, Edward P. Fee, Arvada.

Crowley County—Second Wednesday of each month; secretary, W. M. Desmond, Ordway.

Delta County—Last Friday of each month; secretary, Lee Bast, Delta.

Denver County—First and third Tuesday of each month; secretary, F. Julian Maier, Denver.

Eastern Colorado—Quarterly, first Monday in December, March, June and September; secretary, W. L. McBride, Seibert.

El Paso County—Second Wednesday of each month, secretary, Harry C. Bryan, Colorado Springs.

Fremont County—Fourth Monday of each month; secretary, Archie Bee, Canon City.

Garfield County—Last Thursday of each month; secretary, R. B. Porter, Glenwood Springs.

Huerfano County—Third Thursday of each month; secretary, James M. Lamme, Walsenburg.

Lake County—First Thursday of each month; secretary, J. C. Strong, Leadville.

Larimer County—First Wednesday of each month; secretary, Thad C. Brown, Fort Collins.

Las Animas County—First Friday of each month; secretary, P. W. Carmichael, Trinidad.

Mesa County—Third Tuesday of each month; secretary, F. J. McDonough, Grand Junction.

Montrose County—First Thursday of each month; secretary, C. E. Lockwood, Montrose.

Morgan County—Last Monday of each quarter; secretary, Paul E. Woodward, Fort Morgan.

Northeast Colorado—Second Thursday in each month; secretary, E. P. Hummel, Sterling.

Northwestern Colorado—Second Thursday of each month; secretary, Duane Turner, Steamboat Springs.

Otero County—Second Friday of each month; secretary, C. E. Morse, La Junta.

Prowers County—First Tuesday of each quarter; secretary, C. T. Knuckey, Lamar.

Pueblo County—First and Third Tuesday of each month; secretary, Jesse W. White, Pueblo.

San Juan—Second Saturday, January and alternate months; secretary, A. L. Burnett, Durango.

San Luis Valley—Fifteenth of each month; secretary, James R. Hurley. Alamosa.

Washington and Yuma Counties—First Tuesday of each quarter; secretary, M. L. Crawford, Akron.

Weld County—First Monday of each month; secretary, T. C. Wilmoth, Greeley.

Wyoming Section

MARCH
1936

Editorial

Are We Cheap Skates?

SINCE the House of Delegates at the Lander meeting voted to make the annual dues $7.50 per year, all of which now goes into the general fund, would it not be possible for the Society at least to pay the hotel expenses of our out-of-state invited guest speakers?

We feel that although our Society is the second smallest in the United States we are not doing all we can to show our appreciation to the splendid men who each year have so vitally contributed to our programs. The only inducement we have had to offer these distinguished visitors is the natural beauty of Wyoming and the promise of the best listening audience anywhere to be found. This latter quality is an outstanding one and it has often been spoken of by our visitors as being remarkable. Our men come long distances and they are present all the time with both ears open. You do not find them out for a walk while a speaker is in action.

But can't we be better sports and at least pay our guests' hotel expenses while attending our meetings? We hope the House of Delegates will act favorably on this question at the Cody meeting. E. W.

You Are the Loser

ALL but four of the Doctors in Wyoming missed one of the finest of the midwinter clinics of the Colorado Medical Society, held January 22, 23 and 24 in Denver. Every Doctor who could have attended and did not is a poorer man in every way than if he had spent the few dollars it would have cost and the loss of a few days from his office.

If a man limiting his work to a specialty can go at eight in the morning and enjoy every minute to five in the afternoon for three days running without any time out except at noon, then surely a general practitioner ought to have been in the height of his glory. Fine lunches were furnished by the hospitals and good fellowship abounded at each one.

The clinics were so finely arranged that no time was lost. The character of the work presented could not have been excelled in any large eastern city. The Denver County Society did not supply all the fine speakers, but they came from Pueblo, Colorado Springs and other Colorado cities.

Poor is the man who did not attend, and poorer will he always be. E. W.

Think It Over

SOME of the "tight-wads" in our Society should let this thought sink into their minds.

In a sister state where a group insurance plan against malpractice suits is in effect the insuring company recently refused to defend one of the outstanding doctors in a malpractice suit. It seems that the doctor did an operation and sent the usual bill. The patient wrote the physician that the results were not all that she expected. The doctor had his personal attorney write her a letter saying that if she would pay a given small amount and sign a waiver that she would not bring suit he would cancel the balance of the bill. The patient sent the amount requested but returned the waiver unsigned. A short time after this the patient started suit against the doctor. He at once sent the legal papers to the insurance company, which declined to defend on the ground that the doctor had no right to make such an offer by his attorney, and assumed

that he had previous knowledge that the patient was going to start suit.

We personally believe the doctor had a perfect right to attempt to collect his bills through his own regular attorney without forfeiting any of his rights under his insurance policy. We do not expect our insurance company to take such a stand, but if it did so, wouldn't our State Medical Defense Fund look like the Rock of Gibraltar in time of trouble?

Some day this fund will prove a God-send to—perhaps the very men who would do away with it if they could. Think it over. To be prepared is to avoid war. E. W.

Scarlet Fever in Wyoming

The present epidemic of scarlet fever in Wyoming seems to be noted for two things. First, the mildness of the disease. The State Board of Health, through its secretary, Dr. G. M. Anderson, reports for December 331 cases with five deaths, for January 325 cases with no deaths, for February to the 20th, 361 cases with no deaths. From the above the death rate will average one-half of 1 per cent. In other words one out of two hundred cases died. Complications so far have not been common or severe. Middle ear disease has been below the general average.

Second, the large percentage of cases occurring in persons past childhood is noticeable. At least one-half of the cases occur before eight years of age and about one-third have passed their twenty-first birthday. It has not been an uncommon thing to find adults in their forties and fifties having this disease. Many of these adults believe they had scarlet fever as children.

The United States Public Health report issued for the week of February 14 describes the incidence: "For the four weeks ended January 25 there were 28,658 cases reported, the highest incidence for this period in the eight years for which data are available. For the corresponding period in 1935, 1934, and 1933 the numbers of cases totaled 24,469, 21,359, and 21,507, respectively. In the West North Central region, where the disease was unusually prevalent during 1935, the current incidence (5,025 cases) was 2.5 times the incidence for the corresponding period last year, and in the Mountain and Pacific regions, where the incidence was also high during the entire year, the number of cases (5,182) was almost twice that of last year." From this quotation it will be seen that Wyoming is not an exception.

That there is danger in using the vaccine for treatment has been indicated by one death that followed administration by twenty minutes. Edema of the larynx followed the injection. If there is a lesson to learn it should be that only physicians should administer any form of vaccine in which horse blood is the base. We firmly believe that no doctor has the right to allow nurses not under his personal direction at the time of administration to give any vaccines or serums. And we mean just what we say—ONLY WHEN HE IS PRESENT. Malpractice suits might follow if the results were bad. E. W.

WYOMING NEWS NOTES

The following officers have been elected to serve for 1936 in the Northwest Wyoming Medical Society: Dr. R. C. Trueblood of Cody, president; Dr. Thomas B. Croft, Lovell, secretary-treasurer.

Dr. C. Dana Carter of Thermopolis, Dr. George E. Baker of Casper, Dr. Myron L. Crandall of Rawlins and Dr. Earl Whedon of Sheridan attended the Midwinter Clinics held in Denver by the Colorado State Medical Society on January 22, 23 and 24.

Pfeifer and Cobb have disproved the old theory of end arteries in the brain. They have demonstrated conclusively that the capillaries of the whole cerebral cortex communicate freely and that there is a general anastomosis between the blood-vessels of the surface and deeper structures.—Minnesota Medicine.

In the prostatic, one should not assume that poor renal function is necessarily due to so-called "back pressure."—New England Journal of Medicine.

Colorado Hospitals MARCH 1936

Editorial

THE spring meeting of the Colorado Hospital Association will be held April 28-29 in Denver, at the Cosmopolitan Hotel. The meeting will be in conjunction with the annual meeting of the Colorado State Nurses Association. A number of joint sessions and a joint banquet are planned, and several distinguished guests have been invited to speak.

Dr. Malcolm T. MacEachern, Director of Hospital activities for the American College of Surgeons, and Dr. Arthur C. Bachmeyer, Director of the University of Chicago Clinics, will be among the guest speakers.

An exhibitors section will offer opportunity for the examination of much that is new in the way of hospital equipment.

AIR CONDITIONING*

HARRY HERMAN
DENVER

It is a distinct honor to have an opportunity to present this subject, and I have prepared this paper with the idea of having something very definite to leave with you. Air conditioning is an extremely broad subject and it has been a gradual development for the past thirty years. Not many years ago most of the states in the Union passed certain laws requiring a minimum amount of fresh air for all school classrooms, auditoriums, theaters, and public gathering places, in order to protect the health of the general public. Ventilation has gradually grown into air conditioning, since it was found that ventilation alone was not sufficient to protect the health nor to give adequite comfort to the students in the classrooms or to the assemblies in large auditoriums.

Air conditioning is available right now for any type of building whether it is a hospital, an office building, a theater, a residence or an industrial plant. All of the machinery controls necessary and all of the theoretical data and their practical application are now available to everyone in the industry and you can have air conditioning now that will fulfill the requirements that you may demand. A properly designed air conditioning system with intelligent operation can now be a thing of comfort and a joy forever. Air conditioning is really defined as creating an atmosphere in which we all like to live—which gives us physical comfort, and no discomfort, while we are in the space which is air conditioned. Therefore you can see that air conditioning apparatus must be capable of producing certain results and of maintaining those results constantly with no variation from the perfect condition.

There are six distinct functions that must all be controlled simultaneously in order to have a complete air conditioning system. The science of air conditioning now recognizes six factors, all of which must be interdependent, and no complete air conditioning system can be without any one of these six vital factors. These six factors are heating and cooling, humidifying and de-humidifying, distribution and cleaning. All of these factors must have automatic control. I cannot be too emphatic about automatic controls, because without it an air conditioning system fails utterly. Our own bodies have a marvelous system of temperature control and when our temperature varies just

*Presented before the Colorado Hospital Association, November 6, 1935.


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a few degrees we know that there is some serious trouble, and therefore our bodies are sensitive to the condition of the atmosphere surrounding us.

The functions of an air conditioning system for the winter time are heating and humidifying. We all know of the various types of heating systems such as steam, vapor, and hot water systems with radiation in each room and also the warm air and blast heating systems where heated air is introduced into the room through ducts. Therefore an ordinary heating system in a residence or hospital fulfills one of the functions of an air conditioning system. It is a little more difficult to add humidity to the air because it is necessary to add a great amount of moisture to the air to really increase the relative humidity. Water pans on radiators or in the dome of a warm air furnace will not adequately humidify a room. In order to add moisture more rapidly into a room it is necessary to have some sort of a spray and also some air motion. As you all know, if you add moisture to the air in a room and increase the relative humidity to approximately 50 per cent—which doctors claim is the most desirable relative humidity—the room must be kept at a constant temperature, because if the temperature of the room would raise with no additional moisture added, then the relative humidity of the room drops quite rapidly. Conversely, if the temperature of the air in the room is lowered, the relative humidity increases quite rapidly and will soon reach a point where it is 100 per cent saturated and will begin to precipitate out of the air, forming drops of moisture on the walls and on the window panes, as the room temperature is lowered to the dew point.

There seems to be a very decided opinion among research engineers that when moisture is added to the air by means of boiling water and introducing the steam into the air, it does not have the same invigorating effect on the occupants as when the moisture is taken up by the air when the air gives up some of its own heat in order to evaporate the water which it is picking up. The air is ionized. You have all noticed this after a shower in the springtime when the air seems particularly invigorating.

There is another phase of humidification which is of extreme importance—that the higher the relative humidity, the less is the tendency to have static sparks, and the air conditioning engineers believe that operating rooms should have a high relative humidity in order to reduce any possibility of static sparks which may ignite the anesthesia. Also the high relative humidity tends to reduce the dust particles floating in the air in the operating room. I believe that all hospitals should have humidistats in their operating rooms in order to check up on the relative humidity and, whenever necessary, moisture should be added to the air in order to keep the relative humidity not less than 50 per cent.

The summertime functions of an air conditioning system are cooling and dehumidifying. Cooling may be accomplished in this dry climate by blowing air through a series of sprays whereby the air picks up moisture and in so doing gives up some of its own heat to evaporate the water. The result is that the temperature of the air is lowered. However, the relative humidity is raised and in this dry climate this method of cooling works very well because the relative humidity does not become too high for comfort. There are many days in the year when this type of cooling system is not adequate because the relative humidity becomes oppressive and it is then that refrigeration is necessary in order to cool the air and at the same time hold relative humidity down. Of course in any part of the country where the relative humidity is high, the only way that cooling can be accomplished is by means of refrigeration which not only cools the air but also freezes out some of the moisture in the air and thus lowers the relative humidity.

Naturally the fact that the relative humidity is lowered increases the comfort even though the temperature is not decreased very much. The reason for this is that with the lower relative humidity the body is able to evaporate moisture from the surface of the skin more rapidly, and one has the feel-

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Proc. Soc. Exp. Biol. and Med., 1934, 32, 241-245★
Laryngoscope 1935 XLV, 149-154★
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ing of being much cooler—the same sensation as when sitting in front of a fan.

Dehumidifying is not new to any of you as you all have noticed it in your automatic refrigerators when the moisture from the food in the refrigerator freezes on the coils. Every so often it is necessary for you to shut down the refrigerator machine in order to defrost the coil. The amount of moisture you get off of this coil represents exactly the amount of moisture that was taken out of the air and away from the food in the refrigerator.

The next two functions of air conditioning are functions which must be present the entire year around—distribution and cleaning. Unless the conditioned air is properly distributed in a room it becomes very objectionable, because we are all very sensitive to draft and if cool air is introduced into a theater or a living room without being properly diffused and mixed with the air already in the room, the results are not at all pleasant.

The proper distribution of conditioned air is a matter of expert designing and good engineering practice and a matter of experience. There are more air conditioning systems that are declared unsatisfactory due to the poor distribution than from any other cause, unless it may be lack of control. Even though a thermometer in a room may be kept at a constant temperature, if the distribution system is not correct there will be spots in the room where people will be extremely uncomfortable and poor distribution of air in an air conditioning system should not be tolerated.

The last factor of air conditioning is cleaning. This is particularly important. To have clean air, air that is free from pollen and dust particles and all kinds of bacteria and other impurities is of utmost importance in hospitals. Air filters are now on the market which will remove from the air most of the infinite varieties of dust such as unconsumed carbon, pollen, dirt, vegetable matter, fine particles of ashes, etc. An investigator named Aiken has proved that some dust particles are so fine that they remain suspended in the air for two years and longer, passing several times around the

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THE Camp designing staff—with a combined experience of many years in the surgical support field—is constantly endeavoring to render in Camp garments the objectives of various groups of specialists consulted, as well as professional suggestions relayed by Camp nurses detailing all over the world and by Camp dealers.

From the eastern seaboard three years ago and a little later from the West and Midwest came this suggestion from obstetricians: the desirability of a diagonal pull, in addition to the straight around attachments, in a garment designed to support the abdominal walls without disturbing the relationship of the fetus to the pelvis. To effect this abdominal support, and at the same time to provide proper back support, was a task involving considerable difficulties. However, approximately twelve months later—after numerous conferences, many adjustments and trial by various pregnant patients—a new series of prenatal supports was completed, prenatal supports with a diagonal pull, proved by X-ray to support properly the abdominal walls without constriction at any point.

A comparable situation arose with a number of different internists. The desirability of a garment to fit snugly—without discomfort— over thin, protruding hip bones and yet to hold the abdominal organs as high as possible, was obvious from requests by physicians who had prescribed and found wanting in these respects many visceroptosis garments. To provide such a garment involved the manufacture of a specially made material pliable enough to fit like a hood over the crest of the ilium and sufficiently firm to support the abdominal organs. Only after two years of collaboration and painstaking investigation was there ready for distribution a series of such garments.

Thus is the designing room at the Camp factory a veritable melting pot of professional desires and design possibilities. This is why Camp supports are scientifically designed.

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earth ascending to heights of from forty to fifty miles above the surface of the earth. They are detected in all of our stratosphere flights.

After volcanic eruptions the atmosphere often remains charged with dust particles thrown off and sand and dust storms fill the air with very minute particles which give rise to the extraordinary sunsets which we have in this dry climate and also on the desert.

The city of Akron, Ohio, has made an extended study of air pollution and its bearing on sickness among school children. Careful records of the dust concentration in each section or ward of the city were collected over a period of two years, together with the number of school absentees and the total number of deaths. Medical science has within the last few years made remarkable progress in the treatment of such diseases as hay fever, bronchial asthma, and some of the other so-called allergic diseases by air filteration.

From the time of the earliest knowledge of hay fever and asthma, they were recognized as diseases of the climate and relief was sought by travel. In recent years sufferers in many of our cities have found relief in some of the theaters and department stores and public buildings which are supplied with modern air cleaning systems. These are manufactured hay fever resorts and there are now available small machines which can be placed in the window of a room which will filter all of the air that is introduced into the room, taking out practically all of the dust particles, bacteria, and pollen.

There is a brewery west of town wherein an air filter has been installed to clean the air that comes in contact with the beer, and although the fans handle about 40,000 cubic feet of air per minute, the air is kept clean by the filters. Tests are made every twenty-four hours by putting agar plates in the air stream and then incubating these plates to test for bacteria and yeast spores.

Summary

There are six factors necessary for complete air conditioning—heating and humidifying in the winter time, cooling and de-hu-

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midifying in the summer time, and cleaning and distribution the entire year. All of these factors must be automatically controlled.

COMMERCIAL COMMENT

MADE-TO-ORDER FLOUR

Dieticians, hospital superintendents, and others will be interested to learn that flours and cereals may now be compounded to order in Denver. The flour mills operated by H. T. Burtscher at 3221 West Twenty-sixth Avenue are prepared to perform such work for those who need special combinations of quality grains, prepared under conditions of absolute cleanliness. These mills are unique in that they apparently have no competition in Colorado. They do not prepare white flour, but specialize in whole wheats, rye, graham, yellow and white corn meals, wheat cereals, and pancake flours. Better grocers stock the Burtscher flours throughout the Denver trade area.

IMMATERIA MEDICA

The terrible child watched the visitor sipping his tea for a few minutes, and then protested.

"Mr. Smith drinks just like anybody else," he said. "Not like a fish at all!"

* * *

Not Sure

Restaurant Patron (crossly): "Waiter, what are those black specks in my milk?"

Waiter: "I dunno, sah—unlessen dey's some ob dem vitamins dey's talkin' so much about."

* * *

Think what a boon it would be to the women folk if "permant" waves only had the durability of "temporary" taxes.

* * *

Jimmie was absent from school one day. The next morning he carried the following excuse to his teacher: "Please excuse Jimmy for being absent—he had a new baby brother. It was not his fault."

* * *

Doctor: "Have you ever been x-rayed?"

Dusky Patient: "No, doctor, I ain't ever been x-rayed, but I've been ultra-violated.—Drug and Cosmetic Mag.

* * *

Professor: "What combination dissolves gold quickest?"

Student: "The marriage ceremony."

Hide Her Glasses

"Did the patent medicine you purchased cure your aunt?"

"Mercy no. On reading the circular that was wrapped around the bottle she got two more diseases."—Arcanum Bulletin.

* * *

And Collect Your Commission

"Doctor, I want you to look after my office while I'm on my vacation."

"But I've just graduated, doctor. I've had no experience."

"That's all right, my boy. My practice is strictly fashionable. Tell the men to play golf and ship the lady patients off to Europe."—Lorain (Ohio) Journal.

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A Senior's Lament

What does it matter whether I succeed,
That I become a physician of the creed?
Why should I care whether I ever know,
Angitis Obliterans from a gangrene toe?

Or why should I strive to understand,
Mitral Stenosis or diagnose Paralysis Agitan?
What's the use in percussing the chest,
Trying to hear which lung is best?

The Dermaphytoses and Pityriasis Rosea,
Who knows but what its all Acne Rosacea?
Erythema Nodosa, Actinomycosis, heavens sake,
These names give me just a belly-ache!

What difference, pray, can it make,
Whether the feotus lies in an "R O A,"
Or whether the breech present,
And the "after-head" makes the last descent?

There was a time I held with high respect,
The gray-beard doctor and his puffed-up chest,
I never thought there was so wise a man,
As he for whom ether is poured from the can.

The surgeon of renown was always my ideal,
Its different now, such thoughts I cannot feel.
Its very fine to feel so big, to look so fine.
To know each ache—each symptom to define.

But what does it matter to me
If I should such greatness see?
It's time to rest—the call is near—
A palsied step, a cough or two, and then the bier.

But a traitor never could I be,
To the creed's oath or Hippocrates.
So I hope to go on to the end of my days,
Fighting all pain and trying all fears to allay.

It can matter a very little to me,
Whether I work for the state, or just be,
A doctor to call, to pay when you can,
Sad plight? Perhaps—but where's the coward who ran?

We students hear so much—such pleas!
Of the starving clinicians and his fees,
We wonder why its so bad to be paid
By the State, instead of in the poorhouse laid?

People are sick and babies are born,
Whether bills go home or to the Statehouse are borne.
Times are changing—"Would you stay where you are?"
Fretting, moaning, without a dime for a cigar?

You use "Bleeding" now but a little,
In removing a limb—do you start in the middle?
Why "Stay where you are?" And let charlatans,
Grasp all, run you—themselves enhance?

Why not jump in? Steal the show,
Put our physician at the wheel—go slow,
Still—go on—meet the time's advance,
Retain our grip, our creed, push our plans.

Medicine of the State is not coming,
It is here! Face it! Let's be cunning,
Show the "tors," "ists," and such—what they are,
Let's get going; quit saying—"Stay where you are."

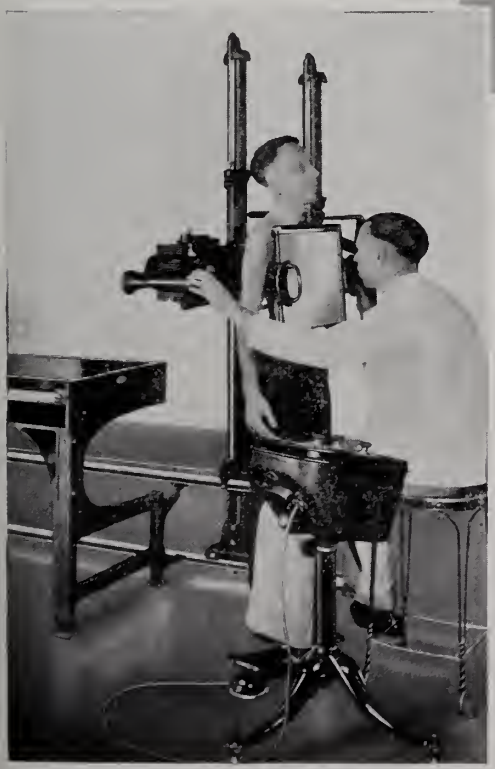
—Eric G. DeFlon.

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This is the "DRF" Unit, a combination of the Model "D" with an x-ray table for radiographic and fluoroscopic diagnosis. Here the tube head has been shifted along the floor rails to the foot of the table, for vertical fluoroscopy.

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Not until you have thoroughly investigated the possibilities of this apparatus can you really appreciate its value in routine office practice. Address Dept. A53, for full details, including the nominal price and convenient terms of payment which place it within your means.

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Indigestion of the Face

"Dear me, what a sour look that woman has! What ails her?"

"Indigestion of the face."

"What's that?"

"Skin food didn't agree with it."

* * *

Screen Actress: "I have a certificate from my doctor saying that I cannot act today."

Manager: "Why go to all that trouble? I could have given you such a certificate without cost."

* * *

The trouble with giving until it hurts is that so many persons bruise easily.—Indianapolis News.

* * *

It's a pity some self-made men didn't have assistance in completing the job.—Atlanta Constitution.

* * *

Justified

Johnnie was gazing at his one-day-old brother, who lay squealing and wailing in his cot.

"Has he come from heaven?" inquired Johnnie.

"Yes, dear."

* * *

He Believes It

Farmer: "An' how's Lawyer Jones doing, doctor?"

Doctor: "Poor fellow, he's lying at death's door."

Farmer: "That's grit for ye; at death's door, an' still lying."—Toronto Globe.

* * *

A Freshman medic stated that carbon monoxide poisoning is the same as auto-intoxication.

* * *

"No wonder they put him out."—Chicago Daily News.

* * *

Recent tests show that alcohol makes a person sleep soundly at first but very restlessly early in the morning. Which makes us wonder if there is a secret channel through which babies are supplied with liquor.—Drug Topics.

* * *

A newly created papa received the glad tidings in a telegram:

"Hazel gave birth to a little girl this morning; both doing well."

On the message was a sticker reading: "When you want a boy call Western Union."—Kansas City Star.

* * *

Little Harry was not feeling well, and his father suggested he might have chicken-pox, then prevalent. Harry went to bed laughing at the idea, but early next morning he came downstairs, looking very serious, and said: "You're right, daddy; it is the chicken-pox; I found a feather in the bed."

* * *

Little Willie: "Mom, you said the baby has your eyes and daddy's nose, didn't you?"

Mother: "Yes, darling."

Willie: "Well, you better watch him, he has grandpa's teeth now."

* * *

It is said the average American family pays the doctor $75 a year. This will be real news to the doctor.—Norfolk Ledger-Dispatch.

* * *

What Did She Expect?

Lady Border—I want to make a complaint. Last night two rats had a fight in my room.

Landlady—Well, what are you grouching about? Did you expect a bullfight for $2 a week?

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As the Crow Flies

Wife—(angrily to her drunken husband)—I suppose you expect me to believe you came straight home from the office.

He—Sure I did (hic); I came home just like the crow flies.

She—So I see. Stopping frequently for a little corn.

* * *

In one of our prominent city hospitals, when a young lady nurse had arranged the room and bed of a young gentleman patient for the night, she kindly inquired if there was anything else she could do to make him more comfortable.

He remarked, "Nothing unless it be a good-night kiss."

She replied, "All right, I will send in the orderly. He does all the dirty jobs for us."—W. D. Lawson, M.D.

* * *

Fighting

Two Chinese coolies were arguing heatedly in the midst of a crowd. An onlooker who witnessed the wordy altercation was told the coolies were "fighting." When he expressed surprise that no blows were struck, his Chinese friend informed him:

"The man who strikes first admits that his ideas have given out."

Think that one over, and see if it does not carry the wisdom of the ages.

* * *

That's the Place

Wife (trying to think of the Hague)—Let me see—what is the name of that place where so much has been done to promote the peace of the world?

Husband—I suppose you mean Reno?

* * *

Not Introduced

Sam (to wife at show): Mandy, tell dat Niggah to take his arm away from round yo' waist.

Mandy: Tell him yo'self. He's a puffect stranger to me.—Brown Jug.

* * *

The Truth

A mother testifying on behalf of her son swore that he "worked on a farm ever since he was born."

Triumphantly the prosecuting lawyer leaned over toward her and thundered: "You tell this court that your son worked on a farm ever since he was born?"

"I do."

"What did he do the first year?"

* * *

A wild-looking man rushed into the dentist's office, planked himself into a chair, and cried out, "Do you give people gas here?"

The dentist replied that he did.

"Can a fellow feel anything at all when he takes it?" asked the sufferer.

"No," answered the tooth artist. "Which tooth is it?"

"It isn't a tooth," cried the man. "I want you to pull a porous plaster off my chest."—Humorist.

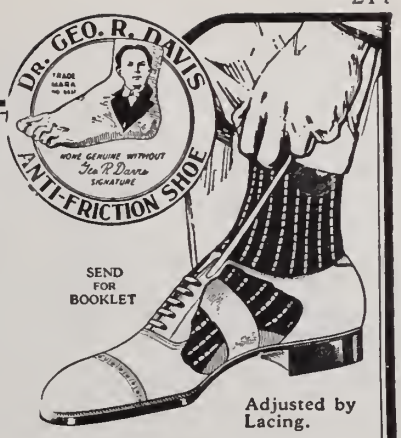
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Different.

"Ah, dear me, things aren't what they used to be," sighed Grannie, discussing the younger generation. "Why, about the only time a modern mother puts her foot down is when the lights turn green."

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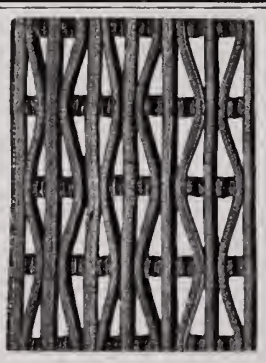
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* * *

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He was all set to live to be a hundred.

The funeral will be held next Wednesday. He is survived by eighteen specialists, four health institutes, six gymnasiums and numerous manufacturers of health foods and antiseptics.

He had forgotten about trains at grade crossings.—Bulletin Mo. State Highway Patrol.

* * *

Impertinent Question

Liza: Ah wants a pair o' shoes for mah little gal.

Clerk: Black kid?

Liza: You just mind yo' own business an' git me dem shoes.—Annapolis Log.

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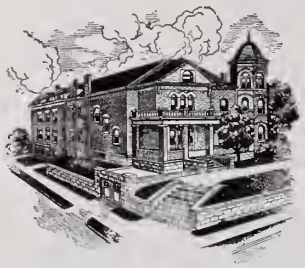
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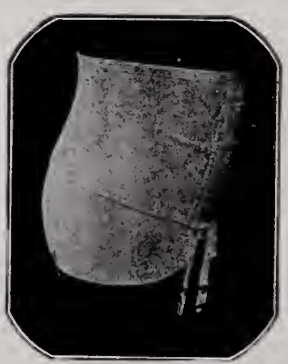
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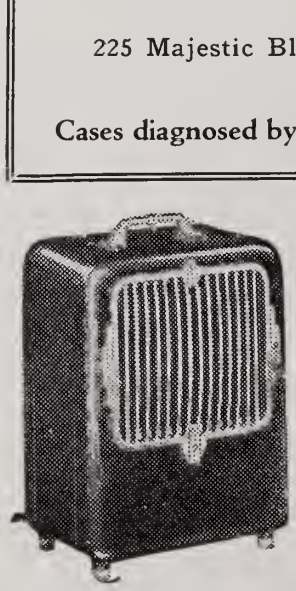
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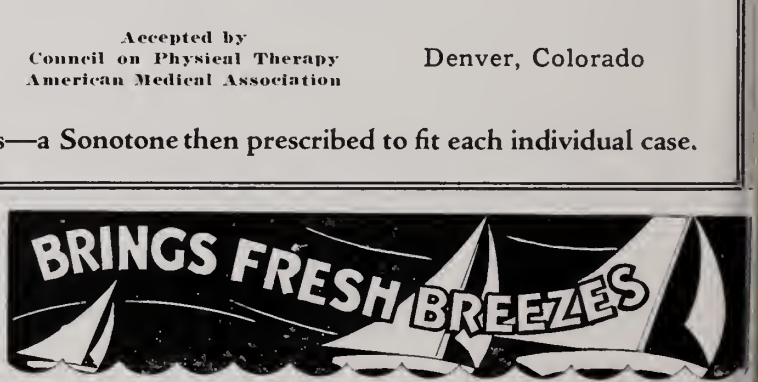
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COLORADO MEDICINE

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CANNED FOODS AND THE PUBLIC HEALTH

III. Chemical Preservatives

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Spoilage of food is principally caused by the growth and multiplication in food of microorganisms such as yeasts, molds, or certain types of bacteria. These microorganisms depend upon the food they inhabit for their nutrition and their life processes produce changes in the chemical or physical characteristics of food, or both. These changes lead us to state that the food has "spoiled".

Like other living organisms, these spoilage microorganisms can grow and multiply in a food only as long as conditions remain favorable for their existence. If any environmental factor, such as temperature, moisture or acidity, becomes unfavorable, these spoilage organisms are destroyed, or their development is inhibited.

All methods of food preservation have a common underlying principle; they all alter some factor or factors in the food environment so as to render conditions unfavorable for the growth or development of spoilage organisms in the food.

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(1) The Microbiology of Foods, F. W. Tanner, Twin City Pub. Co., Champaign, Ill., 1932

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Feeding	*1st Week*	*2nd Week*	*3rd Week*	*4th Week*
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10:00 A.M.	Breast	Breast	Bottle	Bottle
2:00 P.M.	Breast	Bottle	Bottle	Bottle
6:00 P.M.	Bottle	Bottle	Bottle	Bottle

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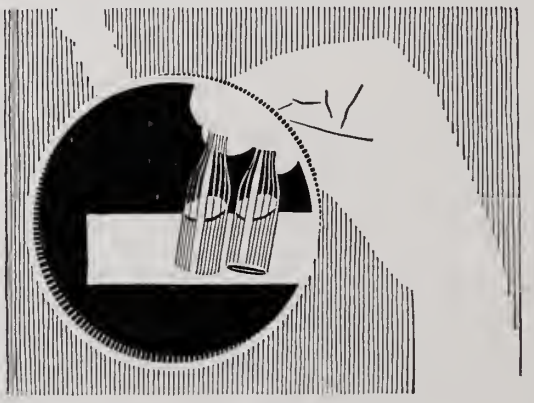
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Colorado Medicine APRIL 1936

Editorial

Incidence of Tuberculosis in High School Students

A FOUNDATION is being laid in Denver County for an important health study among high school students. For years the Denver Tuberculosis Society has considered the feasibility of determining the incidence of tuberculosis among these young people. The ultimate object, of course, is the identification of pools of infection which empty virulent organisms upon the fertile soil of youth. Segregation of these foci would constitute an important victory against this formidable foe of mankind.

Similar surveys have been made in other cities, so the activity is not pioneering in this phase of tuberculosis control. Communication is afoot with the school boards and tuberculosis societies in those communities. Their appraisal of cooperation, response, favorable acceptance and downright value of the procedure will soon be available for our consideration. The plan, if and when instituted, is to be known as a cooperative project between the Denver Tuberculosis Society and the Health Service of the Denver Public Schools with the assistance of the National Jewish Hospital.

Discussion of the question took place at a luncheon meeting in Denver on March 17. Attendance comprised representatives of the national and local tuberculosis societies, the Board of Education, the Denver County Medical Society, the State Board of Health and the National Jewish Hospital. Their presence bespoke interest in the proposition and discussion implied favorable assent to setting the machinery in motion.

The activity is beset with certain obstacles which must be dealt with tactfully. For example, there are individuals and groups who resent even the distribution of pamphlets bearing any suggestion upon matters of health. Scientific facts are repulsive to those who are sensitized by religious beliefs or to the misconceptions of pseudoscientific healers. Furthermore, if a program is launched in a conspicuous way, there would be a certain amount of alarm among the families. Some would conjure up thoughts of hidden dangers lurking about the schools in this particular locality. Newspapers might conceive of incidental publicity as unfavorable to tourist travel or to the acquisition of new residents. What must be wrong with a locality wherein such a survey is "necessary"? Some might assume that the instillation of "tuberculosis consciousness" into adolescents would be unhealthful. We might suggest that more health consciousness on the part of people in general, and of youth in particular, is desirable and should be mandatory.

Realizing that our populace is sensitive and critical, the Board of Education wants to be tactful. It is definitely favorable toward the plan. Thousands of people will never conform unanimously to any innovation, but tact and education will minimize opposition. The National Tuberculosis Association is deeply interested and approves such a program of tuberculosis prevention and control. The Denver County Medical Society, at its meeting on March 3, voted unanimously to approve the project. The Colorado State Board of Health has assured its cooperation. Local physicians will undoubtedly take an active interest.

The plan of procedure is as follows :

1. Parents will be asked to consent to tuberculin tests among the students.

2. Positive reactors then report to the National Jewish Hospital for x-ray examination. A fee of $1.00 to cover partially the actual cost would be expected from parents able to pay. The Denver Tuberculosis Society will pay the fee for indigent cases.

3. A Public Health Nurse will go to each home and explain the interpretation of the findings. Written reports of the tests will be sent to the home also.

4. When the findings are positive, ef-

fort will be made to refer all other members of the family to the family doctor or tuberculosis clinic for study and advice.

5. Members of the Tuberculosis Society would not be parties to the clinical or x-ray examinations—thus any suspicion of personal or group fame or favor is averted. The work would be done by qualified and ethical doctors whose standard of work assures uniformity in the findings.

There should be many direct and indirect benefits accrued through this study. These young people are to fill future ranks and are to be the parents of coming generations. The value of blotting out pools of infection among them is inestimable. The success of such venture paves the way for public health measures of other types. Knowing that tuberculosis is highly prevalent among young people, it will be very enlightening to know its actual incidence in our high schools. The people must understand that the purpose is strictly a public health measure, that it is entirely altruistic and does not aim to sell anything to the public.

Though the death rate of tuberculosis has declined during the past thirty years, there has been less decrease between the ages of 15 and 25. More than one-fifth of all deaths occurring during these years is due to tuberculosis. These cases are of the adult type and are vastly more important than the initial childhood infections. They may be very rapid in their progress, especially in girls. Its discovery helps the child, his family, his associates, and the community. The majority of families are bound to be favorably interested if properly approached, and the incidental health education will be an asset to them.

Opinions May Differ

THE editorial appearing in this journal under the title "Not Guilty—By Reason of Insanity," envisages a day when a group of physicians, each endowed with the wisdom of Solomon and all in complete agreement, will render impartial decisions with such complete satisfaction to all concerned that the lion of the prosecution and the lamb of the defense will lie down together. Until this Utopia arrives or until our conceptions of justice change, however, the person accused of crime will continue to enjoy the privilege of calling witnesses in his behalf. The professional black sheep, who assists in the defense, may on occasion be prompted by motives somewhat more worthy than those often attributed to him.

Since medicine in general and psychiatry in particular are not exact sciences, equally honest men may differ in their points of view. The specialist in nervous and mental diseases is not disfranchised nor is he obliged to agree with those more eminent than himself. However unpleasant it is for a physician to disagree in public with respected colleagues, justice and humanity must remain the prime considerations.

Neither disapproval of legal usage nor the non-inclusion in accepted psychiatric classification of temporary insanity as a clinical entity is very satisfying to the conscience of one who sees many mitigating factors yet wishes to avoid testifying for the defense lest he appear before certain portions of the profession and public in an improper light. An individual not insane in the medical sense, that is, not definitely psychotic, may, under great emotional stress, be entirely incapable of understanding the consequences of his behavior or of refraining from the commission of an act which, in his saner moments, he would scarcely contemplate. The expert witness, who believes the accused to have been in such a state of mind when the crime was committed, can do nothing more than testify to that effect. The final disposition of the case, it must be remembered, is a matter to be decided by the judge and jury.

Perjured medical testimony, regardless of motive, is, of course, unethical and not in keeping with the dignity of the profession. A certain bias in favor of the accused due to a natural sympathy with his predicament, on the other hand, is no more reprehensible than prejudice against him growing out of a desire to avoid embarrassment or to be on the "right side." L. E. D.

CORRESPONDENCE

Rights of Members At A.M.A. Session

Several inquiries have come to the Executive Office of the State Society concerning the rights of Society members who are not Fellows of the American Medical Association at the forthcoming Kansas City convention. To make the matter perfectly clear a letter was addressed to the Secretary of the American Medical Association and his reply is here reproduced in full.

March 14, 1936.

Mr. Harvey T. Sethman,
Secretary, Colorado State Medical Society.
Denver, Colorado.

Dear Mr. Sethman:

I am just in receipt of your letter of March 11 inquiring about registration at the annual session of the American Medical Association in Kansas City.

The By-Laws of the Association specifically provide that none but Fellows and Invited Guests are permitted to register at its annual sessions or to take part in the scientific work of the Association. Those who attend the annual session as Invited Guests are persons who cannot qualify as Fellows of the Association.

I regret exceedingly that it will not be possible for us to register members of the Colorado State Medical Society or of other state medical societies who have not qualified as Fellows. As you know, the members of the American Medical Association, as such, are not required to pay any dues to the Association. Members do not contribute to the financial support of the American Medical Assocviation unless they qualify as Fellows. Fellows are required to pay annual dues and to subscribe to The Journal, but Fellowship dues and subscription to The Journal are included in the one annual payment of $7.00, which is the regular subscription price of The Journal.

Not all members of the American Medical Association may qualify as Fellows for the reason that the By-Laws of the Association require that one who desires to be a Fellow must be a graduate of a medical school recognized by the Association. However, provision is made in the By-Laws whereby physicians who graduated at unrecognized schools, but who have established a reputation for professional ability and probity may be qualified as Fellows when their applications are approved by the Judicial Council.

I have little doubt that some of the members of the Colorado State Medical Society who are truly eligible for Fellowship and who are now subscribers to The Journal could easily qualify as Fellows and, if the members of this particular group would apply for Fellowship, I have no doubt that their applications would receive official approval. On the other hand, I think it is possible and perhaps probable that there are some members of the Colorado State Medical Society whose application for Fellowship would not be approved because of their having graduated at unrecognized schools or for other reasons.

Because of the fact that a very considerable number of the members of the American Medical Association are not familiar with the requirements for Fellowship, we have, at annual meetings previously held, permitted those who present credentials indicating their membership in a constituent state medical association to apply for Fellowship at the Registration bureau and to make it possible for them to attend the scientific section meetings and the exhibits, after their applications for Fellowship have been filed. Such applications are accepted at the Registration Bureau with the understanding that they are subject to the necessary official approval.

OLIN WEST,
Secretary.

To the Editor:

The editorial, "Not Guilty, by Reason of Insanity," was a paragon except for several insignificant errors.

Our law gives the accused a fair trial and allows him to offer evidence in his favor. (Men died, in the past, to retain this right for future generations). A small alteration of our law would rectify this time-honored misconception.

Next we examine the phrase "the spurious plea of insanity." The word spurious means counterfeit or false, and implies deception, fraudulence and trickery. We over-reach the intended thought whenever we say "the spurious plea." It would be correct to say "the uncertain plea of insanity," since we are undecided, as yet, that temporary insanity occurs. Accepted classifications of mental diseases do not list "temporary insanity" as a disease. However, Spitzkas' Manual of Insanity, printed in 1892, did not discuss certain disorders which we make out today. "Those were benighted times." Today we have, at least, accepted classifications.

Lastly, we scrutinize "men who are identified with questionable professional testimony." C. A. R. would "discourage" those men. I say, cast them from our midst! A man who gives "questionable professional testimony" at a murder trial abets murder. Prosecute him as an accomplice.

We approve a colleague's opinions concerning uncontroverted topics; everyone is in accord. If he disputes our belief on a controverted subject, he is a rogue and a pariah—THROW HIM OUT!

J. P. HILTON, M.D.

SCOPE AND LIMITATION OF THE TERM "ECZEMA"*

GERALD M. FRUMESS, M.D.
DENVER

"Eczema" is derived from the Greek word meaning "to boil." The connotation is that of an eruption resembling effervescent fluid; one with vesicles, or bubbles; and erythema, or heat. In this paper, I shall limit the conception of eczema to an eruption with vesicles and erythema, and with certain other characteristics to be discussed shortly.

Superficial vesicle formation is due to edema in and between the epithelial cells. In true eczema, this edema results from contact of a previously sensitized epithelium with the substance which sensitized it. This sensitizing substance we may call the eczematous agent. The contact between agent and skin is usually an external one, as in the case of occupational eczemas and ivy poisoning. The agent may, however, be carried to the sensitized epithelium by the circulating blood. In either case, the shock tissue, or battlefield, is the epithelium, and the shock is manifested by the production of superficial vesicles and inflammation.

Certain characteristics of the eruption may lead us to suspect an eczema of external origin. It is always vesicular in its early stages; it tends to be asymmetrical rather than symmetrical, especially in occupational eczemas in which one side is favored; the lesions are demarcated by the clothing to either exposed or unexposed areas of the skin rather than to both; there is a history of exacerbation of the lesions in certain environments.

Certain criteria must be fulfilled before a diagnosis of eczema may be ventured:

First, the concentration of the agent causing the eczema must be such as to be ineffective when maintained in contact with a normal skin. Thus mercury bichloride, in 2 per cent solution, will produce a burn upon every skin; whereas only the mercury-sensitized skin will react to contact with 1 to 10,000 bichloride. The drug in the latter dilution is an eczematogenous substance. In the former strength, it is a caustic.

Second, true eczemas are due to contact, but not a *first* contact of the eczematogenous substance with the sensitized skin. Thus new-born infants may be rubbed with leaves of poison ivy with impunity, whereas 60 per cent of adults have become sensitized to it, after repeated contact with the plant.

Third, an eczema on one portion of the skin usually renders the remainder of the skin surface sensitive to the agent causing the eczema. This makes possible the testing of uninvolved skin. Occasionally, however, the sensitization remains localized, and tests are elicited only in the areas involved.

The fourth criterion utilizes this sensitized but uninvolved skin for employment of the "patch test." The suspected offending substances are placed in contact with normal portions of the skin, on a piece of gauze, covered with oil-silk tissue and held in place with an adhesive strip. No scratch or abrasion is made upon the skin. The adhesive patch remains in place from one to three days. An eruption with erythema and vesicles at the site of the test is considered positive, and proof that the substance tested is, at least in part, responsible for the eruption.

Eruptions which fulfill these postulates may be considered true eczemas. The scope of eczema, then, includes the following skin diseases, all of which measure up to the above standards:

First, dermatitis venenata, or dermatitis due to contact with certain plants. Though this disease has long been separated from the eczema group, it should be again included with eczema, for it results from a true epithelial sensitization. It differs from other eczemas only quantitatively, in that the vesicles tend to be larger and the erythema and edema more intense than in other eczemas. Qualitatively it does not differ from them in the least.

Second among the group of true eczemas is infectious eczematoid dermatitis, an erup-

*Presented before the Sixty-fifth Annual Session of the Colorado State Medical Society at Estes Park, September 6, 1935.

tion which often develops around a draining ear, a discharging ulcer or abscess, a fistulous opening, or a sinus. This disease results from sensitization of the epithelium to bacterial or chemical products in the discharge, and a true eczema results. Patch tests with the exudate upon the patient's skin are positive; upon the skin of a normal individual, they are negative.

Third is the group of occupational dermatoses. Victims usually become better when away from their vocations, and the eruption recurs upon their return to work. Intelligent use of the patch test with materials with which they work will usually reveal the cause of the eruption.

Fourth is a miscellaneous group of eczemas due to a wide variety of eczematogenous substances with which all of us come into contact almost daily, but to which only the occasional individual becomes sensitized. Among such articles are dyes used in clothing and furs, rayon material, lacquers and paints, ingredients in cosmetics and soap, leather in hat bands, nickel in jewelry, and so on. This is the group in which meticulously careful history and patch-testing is most essential in determining the cause of the eczema.

The fifth group comprises various chemicals which may, by external application, sensitize the skin. A few common offenders are mercury, quinine, resorcin, sulphur, butesin picrate, unguentine, and novocaine.

As a sixth group we may include those eczematogenous substances which reach the epidermis by means of the circulatory system. The original sensitization was usually, however, produced by external contact of the agent with the skin. Thus, a patient who develops a true eczema after ingestion of quinine has usually become previously sensitized to the drug by its external use in a hair lotion.

If the original sensitization was an internal rather than an external one, the shock tissue is apt to be, not the epithelium, but the vascular structures—and the resulting shock manifests itself by urticarial, papular, or erythema multiforme-like lesions, rather than by vesicles.

Limiting the term "eczema" to this phenomenon of epithelial sensitization, we are forced to dispose of other conditions which did, and in part still do, parade under the name of eczema. Among these, the following may be mentioned:

Seborrheic dermatitis has for many years been differentiated from eczema. In this dermatosis two factors seem essential—a fertile soil, represented by an oily skin, and a specific infection by certain yeast-like organisms. Encountered with the seborrheic type of skin, with an eruption favoring the scalp, face, chest, and folds, and with absence of vesicles as primary lesions of the dermatosis, seborrheic dermatitis can usually be diagnosed. Correctly recognized, treatment should be aimed not at search for sensitizations, but at improvement of the oily soil and destruction of the parasite. Our best weapon dealing with the former is x-ray, and with the latter, sulphur and other parasiticides. Having differentiated the seborrheic diseases from true eczema, confusion can best be avoided by speaking of seborrheic dermatitis and not of seborrheic eczema.

Another group of diseases which has been removed from the eczemas are the dermatomycoses. The fungus and yeast infections can ordinarily be recognized by their sites of predilection, the sharply marginated borders of their lesions, and microscopic identification of the yeast or fungus. Correct diagnosis again indicates specific treatment. And again terms such as "eczematoid ringworm" and "eczema marginatum" should be avoided to prevent confusion with true eczema. One phenomenon incident to tinea and monilia infections may be confusing unless properly understood. This is the frequent appearance of allergic, eczema-like eruptions at distant sites from the primary infections. Thus an eczematous eruption on the hands, in which no fungi can be found, may be associated with true ringworm of the toes. These allergic manifestations are often accompanied by vesicles and may be considered true eczemas, as they are true epithelial sensitizations to trichophytin, which in this case reaches the skin by circulation through the blood.

Certain dermatoses, often grouped with

the eczemas, are distinguished primarily by lichenification of the skin; that is, by thickening of the epidermis and accentuation of the normal skin markings. Two types of lichenified dermatoses are observed. In a disseminated form the lichenification usually exhibits itself in the flexures of the elbows and knees, and the sides of the neck. Experience has shown such a condition to occur frequently in individuals with a personal of familial allergic history. In this condition, more than in any other dermatosis, an allergic approach is indicated, and is often fruitful of gratifying results. The term "atopic dermatitis" applied to this condition is significant of the etiology and suggestive of the approach. Such terms as "allergic *eczema*" and "flexural *eczema*" should be avoided, as this condition is not an "eczema" in the proper sense.

A more circumscribed and asymmetrical variety of lichenification occurs in the so-called lichen chronicus simplex, in which simple thickening may occur anywhere on the skin as a result of scratching. This condition is probably neurogenous, but the term neurogenous *eczema* is a poor one, for this disease does not result from epithelial sensitization.

Another dermatosis which is still almost invariably included in the eczema group is a symmetrical, scaly, erythematous eruption which is usually called "erythemato-squamous eczema." Significant of this dermatosis are three facts—first, it does not present vesicles as primary lesions, this characteristic distinguishing the disease morphologically from true eczema; second—unlike true eczema, it affects exposed and unexposed portions of the body simultaneously, thus making contact sensitization as a cause unlikely; and third, it is symmetrical. The cause of this dermatosis is always internal. It may be a hypochlorhydria, a blood dyscrasia, a drug idiosyncrasy, a focus of infection, a malignancy, an avitaminosis, a metabolic unbalance. For this condition the term "erythemato-squamous dermatitis" is preferable to that of "erythemato-squamous eczema." Of all dermatoses, this is the one in which the cooperation of internal medicine is most essential in determining the cause.

Having thus disposed, all too briefly, of certain conditions which were once called "eczema," but which should be separated from the group of true eczemas, we may mention in passing the position of the so-called "infantile eczemas." These may, usually, be divided into three types. The first, occurring in the early weeks or months of life, starting on the scalp and in the folds, falls into the group of seborrheic dermatitis. The second type includes cases of atopic dermatitis. These usually begin about the sixth month of life, and do not tend to localization of the eruption in the flexures until about the second year of life. A third group of eruptions in infants are true contact eczemas. These cases are often overlooked by pediatricians, who are too apt to consider all infantile eruptions allergic, and to treat them all by elimination diets. A vesicular, eczematous eruption on the exposed areas of an infant's skin should lead to a search for sensitization to silk in a comforter, dye in a blanket, paint on a toy, and so forth. Such an eruption on a covered part leads to suspicion of lacquer on a toilet seat, rayon in a jacket, orris root in a cream or powder, and so on. Patch tests with suspected substances may lead to an almost miraculous cure.

In conclusion, it may be well to observe that over-simplification of this subject may lead to certain pitfalls. An occupational eczema of long duration may no longer present vesicles as lesions; the phenomenon of "auto-sensitization" may disseminate the eruption over the entire body, so that the condition resembles an erythemato-squamous dermatitis. Lichenification and impetigenization of old lesions may lead to further confusion. However, careful history of the early appearance of the eruption will usually determine whether or not a true eczema is being dealt with.

Conversely, mechanical or chemical irritation of an erythemato-squamous dermatitis may eczematize some areas and produce crops of fresh vesicles which would mimic a true eczema.

In the average case, however, bearing in mind these possible confusing features, the concept of eczema as a phenomenon of epithelial sensitization, and familiarity with the technic of the patch test, offer a rational and practical approach to the solution of any individual case which is properly diagnosed.

ABSTRACT OF DISCUSSION

A. J. Markley, M.D. (Denver): The identification of eczema as a definite clinical and pathological entity has been one of the real dermatological achievements of the past few years. As long as we regarded eczema merely as a form of dermatitis it was not possible to explain, rationally at least, the very peculiar clinical manifestations of eczema, its superficial vesiculation and the continued and often irrepressible serous exudation. Now, however, it has been shown that eczema is not a dermatitis but an epidermitis with secondary invasion of the corium and the production of dermal and vascular changes in the corium.

If we approach it in that way, it can be more readily understood why we have the peculiar weeping in eczema. In the chronic phases of the disease, however, the changes that take place in the corium are of course secondary to those of an acute inflammatory epidermitis. Such a process as occurs in proximity to any other acute inflammation naturally occurs in the corium as a result of an acute epidermitis. These changes of course often do very closely simulate other forms of dermatitis but these other forms of dermatitis usually begin in the corium and not in the epidermis.

Dr. Frumess has referred to neurodermatitis, particularly, and often it is only by careful and prolonged investigation that it is possible to separate an eczema when it has reached its chronic phases from the more chronic forms of neurodermatitis and the erythemato-squamous dermatitis due to internal causes. As the author also pointed out, the causes of eczema are essentially and primarily a sensitization of the epidermis through external contact and even in those instances in which internal disturbances of various natures have led to the changing and alteration of the resistance of the epidermis and permitted its sensitization, the actual eczema will not develop and will not appear without the precipitating external contact with the substance to which the epidermis has been sensitized.

This matter of epidermal sensitization for a long time presented a rather difficult problem to the allergists, as it so often occurred that eczema was apparently of allergic nature, yet it could not be so proved by the ordinarily used skin tests, particularly the scratch test and the intradermal test. This of course is due to the fact that the reagins which constitute the essence of the sensitization are fixed in the epidermis. They are not soluble and circulating reagins such as occur in neurodermatitis and asthma and hay fever and other forms of constitutional allergy. The epidermal sensitization is due to fixed reagins in the epidermis and for that reason it cannot be passively transferred and fulfill another one of the very important allergic maxims.

I wish that the treatment of eczema was as simple as has been suggested by Dr. Frumess in his formula, "Determine the sensitizing agent by a patch test, and remove it." Unfortunately epidermal sensitization is often multiple. When one considers the absolutely innumerable sources of sensitization from the external contacts into which the skin is brought, that is readily understandable, and such sensitization will often elude for a long time the most painstaking and persistent care. However, it can be done and if properly carried out the diagnosis of eczema can be made and the proper treatment can be instituted.

T. A. Stoddard, M.D. (Pueblo): Fifty years ago a patient was brought to Dr. Vaughn at the University of Michigan with a very bad case of eczema. Vaughn referred the case to the homeopathic department of the university and a number of us went over to hear the talk of the medical man there and he, after giving very good talk about eczema, said, "Now, we can cure this man. We will give him one drop of the thirtieth trituration of natron muriaticum three times a day." That meant that if salt were put in Lake Superior, thoroughly mixed, each drop would contain as much natron muriaticum as the patient was getting. I don't know whether the patient was cured or not but this matter of eczema has been a thorn in the flesh of all medical men. Here is what was said of eczema forty years ago:

"It has come to be known as a perversion that attends the sucking babe, the growing child, adolescence, manhood, the climax of vigor, the decline of virility and the second infancy of senility; a torment that shows itself under all conditions of bodily care from the loathsome filthiness of the peripatetic beggar to the exquisite purity of a woman emerging from her violet scented bath; that is manifest under all circumstances of dyscrasia up to apparently robust health; that shows predilection for no part of the cutaneous surface between the crown of the head and the soles of the feet; that has no affinity for sex; that is as coquettish as the most accomplished woman of society, now bestowing a mere glance of the eyes and then again revealing itself in all the completeness of a soul disclosure; that varies from the mildness of a summer noon to the severity of a Dakota blizzard; that basks in the glowing heat of the tropic or saunters out affectionately clinging to the frigid arm of a Klondike winter; that is an ancestral legacy and is acquired by abstemiousness and frugality as well as by riot and luxury; that is precipitated from within and without; that thrives equally well in an unwholesome and poisonous or a pure and exhilirating atmosphere."

And yet it must be asked, "What is this disease, and how can we cure it?" That question is just as great today as it was fifty years ago. Our essayist has given a comprehensive conception of it.

Dr. Frumess (Closing): Dr. Stoddard's excerpt of a discussion of eczema written forty years ago is very interesting and amusing. In a good many parts of the world it is true that knowledge of eczema has not progressed any further in these forty years. However, I maintain that following the work of Black of Zurich and Jadassohn of Germany on the phenomenon of contact sensitization in the diagnosis and treatment of eczemas, within the last ten years tremendous advances have been made in the approach to our eczema problem.

You are all familiar with the fact that a good many patients, both infants and adults, with severe eczemas improve almost miraculously when taken out of their environments and put into hospitals. This miraculous improvement is not due so often to the change in diet or the change in emotional strain upon the patient as it is due to the fact that the patient is temporarily being

taken away from the environment which is full of substances which, to him, are eczematogenous.

Dr. Markley stressed the arduousness of the process of attempting to find out what this contact substance may be. However, the difficulty of finding it is well worth the trouble it takes. I will never forget the case of a watchmaker who had a severe eczema for four years, an eczema of the hands which forced him to take a few weeks away from his watchmaking every three or four months so that his eczema would get better, who came in to my office because he said he was told to change his occupation and he was very depressed about it. At watchmaking he could make forty dollars a week, whereas at anything else he couldn't make ten. It was arduous work, testing this watchmaker with the scrapings of all his tools, with all the liquids with which he came into contact in his work, with the shellac and lacquer on his work bench and on his stool and so forth, but it was well worth the trouble when we found this watchmaker sensitive to cleaning fluid. The removal of that cleaning fluid was sufficient to cure his eczema.

THE RELATIONSHIP OF FEAR TO THE PSYCHONEUROSES

PRELIMINARY REPORT

J. P. HILTON, M.D.
DENVER

Emotions serve various ends. Some are agreeable, some are disquieting, and others are protective in nature. Fear is the one of the protective group of emotions to which I shall devote this discussion. Being defensive in nature, fear is experienced by every one and occurs primarily to safeguard the individual from harm.

An emotion occurs either in response to a stimulus from the outside world—the sight of an escaped lion, the sound of an explosion —or from within us in answer to a fearful thought or remembrance.

There are degrees of emotion; it can be intense, moderate or barely experienced. Our language has recognized these gradations of emotion and applies such words as terror, fright, and apprehension to express the distinctions of fear.

The emotional reaction to the stimulus depends on the strength of the stimulus and on the particular experiences of the individual. The lion tamer feels no terror before the king of beasts. However, if unused to public speaking, he can be terror-stricken at the thought of appearing before an audience.

An emotion can be divided into mental and physical components. We recognize the mental attributes of an emotion when we experience it; but we seldom realize the physical accompaniments of the emotion except to say we are "weak with fright," or "paralyzed by fear." Some of the physical accompaniments of fear are muscular weakness, dilation of the pupils, dryness of the mouth, increased perspiration, tachycardia, and temporary cessation of function of the gastro-intestinal tract. These changes are brought about by the influence of the thalamic region of the brain on various bodily functions. The sympathetic system, by way of the thalamus, acts to inhibit the gastro-intestinal tract and to stimulate the circulatory system.

Normally these physical phenomena depart shortly after an emotion passes our consciousness. However, these phenomena can be present almost constantly in an individual who is afflicted with chronic fear reactions.

Repetition of a certain stimulus produces the same response and establishes an associational pathway in the brain. The response by repetition may change in degree; terror can become apprehension, and the contrary may occur. It is evident, since an emotion can vary in intensity, that the degree of fear may be only one apprehension, and as such be unrecognized as fear by the individual.

It so happens that there is a great group of people whom we term psychoneurotics. They feel eternally under par physically, complain of fatigue and weakness, of moist hands, of a rapid heart rate and of apprehension and indecision. Heretofore, we have told them their trouble was neurasthenia, psychasthenia, an obsessive ruminative syndrome, a compulsion neurosis, a phobia or phobias. We have used persuasion, psychoanalysis, brow-beating and pep talks in treating them—mostly with the same result. Moderate improvement, then a relapse occurs, the period of improvement equaling

the duration of our active interest in the case.

Consider, however, that the physical complaints of these people are the usual physical accompaniments of fear, that these people are chronically fearful or apprehensive. They are so because over a period of time there has been a more or less constant repetition of stimuli producing fear. The business executive whose work requires many quick decisions finds he has lost his usual decisiveness. When he tries to make a decision he feels confused, apprehensive and weak. He does not recognize that the indecision comes of fear that his judgment may be wrong; he does not know that the physical accompaniments of fear explain his weakness. His work requires decisiveness; he has become indecisive and experiences apprehension, weakness, tachycardia, etc. In other words he has become a psychoneurotic.

These phenomena can be explained on the basis of "conditioned" or "associational responses." Ordinarily fear does not accompany the making of a decision. Should the decision be of such a nature as to entail fear of consequence, fear becomes associated with the decision. If repeated, each repetition adds to the ease of response and an "associated or conditioned" response of fear to the stimulus of making a decision has been established. Any attempt on the part of the patient forcibly to overcome the reaction only aggravates the response, increases the indecision, weakness, palpitation, etc.

These conditioned responses are specific at first; later they may occur in response to varied stimuli. The soldier cowering in a shell-hole, unable to force himself to advance, terror-stricken by the noise of bursting shells, becomes abruptly conditioned to the sound of explosions—he becomes shell-shocked. Months later he still cowers or collapses if he hears unexpectedly a shot or the backfire of a motor. The man treated with rest and a rigid regime of no exercise recovers from tuberculosis. After he is well, he finds himself wondering whether or not exercise will injure him. He fears it will injure him because he has lived a life devoid of exercise for months in order to recover from tuberculosis. Fear has become associated with the thoughts pertaining to exercise; a conditioned response is present. He decides to walk four blocks. He wonders if he can stand that much exercise; he perspires; he becomes afraid, indecisive, confused, and weak—so weak in fact that he cannot move; he must lie down. The same response occurs each time he considers walking, each response increasing the future ease with which this conditioned response can take place. The indecision regarding the taking of exercise can, with its emotional accompaniment, now easily invade other reaches of his consciousness. The same conditioned response can take place if he considers buying a suit of clothes or contemplates going to a party. The patient's conscious life becomes reduced to one of chronic indecision over even trivial matters with the added physical accompaniments of the emotion of fear.

How are these people to be helped? Not by the time-tried methods of treatment. They must be "reconditioned" in responses to those stimuli already associated with fear in their consciousness. To do this they must first understand the nature of this conditioned response, that it is one of fear with the physical accompaniment of fear. It is much easier to know that weakness and fatigue are results of a chronic state of fear, rather than to wonder if one has some pernicious, wasting disease. After the patient understands the nature of his difficulty, the task of reconditioning his responses is undertaken. This is accomplished by having the patient avoid those stimuli which produce the undesirable response. The man with the healed tuberculosis is told to take a taxi rather than to futilely argue with himself whether or not he walk one block or four. The business executive is told to put off, for the time being, any decision which carries with it the hint of fear or indecision on his part. Only in this way can the unpleasant response be avoided. By avoiding the response the corresponding associational pathways in the brain are lost through disuse. In a variable period to time, the patient finds himself doing those things without discomfort which formerly prostrated him.

CASE REPORTS

HEMORRHAGIC ENCEPHALITIS FOLLOWING ARSPHENAMINE INJECTIONS*

KENNETH C. SAWYER, M.D., and PAUL K. DWYER, M.D.
DENVER

We wish to add to the literature a case of a young woman in the fifth month of pregnancy who died of acute hemorrhagic encephalitis following injections of sulpharsphenamine and mercurosal.

CASE REPORT

Mrs. M. L., white female, aged 19 years, in the fifth month of pregnancy, was first seen on August 14, 1935. The family and past history were negative. Present illness: She had been under treatment by her family physician for a syphilitic lesion on the cervix for ten days. Both Kahn and complement fixation tests were plus four. She had had injections of sulpharsphenamine on August 8 and 10 and mercurosol injection on August 13. Twenty-four hours after the last intra-muscular injection of .1 c.c. of sulpharsphenamine, the patient complained of severe headache, generalized aching and tenderness, vomiting without nausea and extreme apprehension and lassitude of eight hours' duration. These symptoms became progressively worse.

Physical examination: A well developed, well nourished young woman, appearing to be the stated age of 19 years. Extremely irritable, nervous and apprehensive. Her remarks were incoherent. Temperature, 102°. Pulse, 120. Respiration, 20. Blood pressure, systolic—116, diastolic—80. Patient complained of pain on pressure over the entire body. No points of greater tenderness were found. Throat was markedly injected, giving a dusky red appearance. Heart and lungs were essentially negative. Abdomen: Uterus at the level of the umbilicus. Neurological examination at this time was negative.

The following morning, examination was the same except that the patient was in a stupor and there was some slight rigidity of the neck and a lateral strabismus of the right eye. Patient was hospitalized.

Blood count: R. B. C., 4,350,000; W. B. C., 12,500; hemoglobin, 85 per cent; polynuclears, 91 per cent; small lymph, 9 per cent; no stippled cells; coagulation time, three minutes and thirty seconds.

Urinalysis: Catheterized specimen, color—yellow, appearance—cloudy, reaction—acid, specific gravity—1.015, albumin—trace, sugar—0, acetone—0, casts—0, pus—occasional, blood—occasional, epithelium—moderate, no cylindroids, mucous shreds, crystals, or bacteria.

She was given thirty grains of sodium thiosulphate intravenously and two grains of sodium luminal intramuscularly and while preparations for a lumbar puncture were being made, the patient died.

Autopsy report: Uterus reaches umbilicus and contains a four and one-half to five months fetus. Kidneys: Left kidney measures 11x5 cm. and has a tendency toward a horse-shoe shape. The capsule strips easily and the markings are well defined. There is a hemorrhagic area .3 cm. in diameter in upper pole. Right kidney measures 4.5x3 cm. There is no evidence of hemorrhage. Liver, spleen, and pancreas show no gross pathology. Brain: There is distinct congestion of vessels about medulla and pons. Otherwise there are no gross changes.

Microscopic: There is a marked degree of cloudy swelling of renal tubular epithelium going on in some areas to actual degeneration. Glomeruli show no marked changes. Brain sections show marked congestion of vessels. There are small areas in the brain substance diffusely infiltrated with red blood cells. Liver, spleen, and pancreas show no pathology.

While numerous cases of hemorrhagic encephalitis following arsphenamine injections have appeared periodically in the European medical literature since first described in 1911 by Fisher, Almkvist, and Milian, no real work had been done on this subject in this country until Cole and his co-workers reported six fatal cases of hemorrhagic encephalitis in 1931. Of these cases four had had sulpharsphenamine injections. Plass and Woods in April, 1935, reported three fatal cases in obstetrical patients, reviewed the literature and attempted to demonstrate that young pregnant women were more susceptible to this type of arsenical reaction than other individuals.

*The authors acknowledge their indebtedness to Drs. Geo. Z. Williams and Myron C. Waddell for their assistance in this case.

Erratum

In Colorado Medicine for March there occurred one of the perennial and ever inexplicable errors that seem incumbent upon the printing business.

There were micro-photographs in Dr. Lyman W. Mason's article on Treatment of Chronic Cervicitis by Electro-Surgery. The cuts over Figs. 2 and 3 were reversed; the numbers and captions are correct and properly placed, but in the final make-up of the journal the respective positions of the photographs became altered. We deeply regret this error.

Psychiatric patients may be treated successfully by the class method, followed by individual consultation.—Journal of Nervous and Mental Disease.

Treatment of Cancer of the Uterus

We, the Denver Radiological Club, believe that we can justly take the stand in the light of present experience that all cancers of the cervix are best treated by radiation alone without any surgical interference aside from the traumatism of necessary biopsy. The application of radium and x-ray to cancers of the uterus has become a highly technical procedure. Too small dosage is worse than useless. Too large dosage may cause serious harm. The skill, experience and judgment of the physician using radiation methods is far more important than the amount and type of equipment used.

The American Radium Society, the American College of Radiology and other radiological organizations condemn the casual or occasional use of rented or borrowed radium by men who have not made a special study of its use. The Denver Radiological Club concurs in the opinion that such casual use of radium is unjustifiable. We feel that the use of implanted radium or radium emanation needles about the cervix or in the cervical mass is not a suitable method of treatment.

The results appear to be far superior when cancers of the cervix are treated with enormously increased dosage applied through heavily - screened filters, both against the cervix, vaginally, and in the cervical and uterine canals. All radium applications should be filtered through the equivalent of 2 mm. of lead or 1 mm. of platinum, should be completed within a period of three weeks and be calculated to give from 6,000 to 10,000 milligram hours. At least half of this would best be derived from radium placed within the cervix and lower uterine canal; the remainder from radium placed against the cervical growth.

The x-ray treatment recommended consists of a series of exposures given within a period of not more than three weeks, so calculated as to accumulate within the pelvis a concentration of at least 1200 r (1½ erythema skin doses) taking into consideration both the scattering and decay.

We recommend that in carcinoma of the uterine fundus, when the growth is apparently limited to the walls of the uterus, and there are no palpable suspicious glands and the uterus is freely movable, that a complete hysterectomy is the method of choice. However, if there is fixation of the uterus, however slight, signifying spread of the cancer to the peritoneal surface, or into the uterine ligaments, or if gland masses are palpated, then we recommend radiation treatment, alone or followed by hysterectomy in from six to ten weeks. The x-ray treatment to be carried out as recommended above should be followed by an application of highly filtered radium of 5,000 to 10,000 milligram hours into the uterine cavity.

RADIOLOGIC REVIEW'S NINTH ANNUAL "RADIUM NUMBER"

The March issue of the "Radiologic Review & Mississippi Valley Medical Journal" (Quincy, Ill.), is the ninth annual "Radium Number" of that publication. It is entirely devoted to radium, containing ten original articles especially written for this issue by leading American radium therapists on various phases of radium therapy. There are contributions by Jones of Cleveland, Schreiner and Wehr of Buffalo, Soiland of Los Angeles, Murphy of Minneapolis, Fox of Dallas, Levin and Sittenfield of New York, Swanberg of Quincy, Simpson of Chicago, etc.

The issue includes three important contributions on gynecologic malignancy. Jones of the Cleveland Clinic reviews 610 cases of carcinoma of the cervix treated at that institution by radiation, concluding that radiation is the best treatment and that their five-year curability is 24.5 per cent. Schreiner and Wehr of the State Institute for the Study of Malignant Disease at Buffalo, N. Y., summarize the results of 3105 gynecologic malignancies treated at their clinic and make a vigorous plea for additional education on the part of both the public and the profession that will lead to an earlier diagnosis being established. They state their "firm belief that 50 per cent of the mortality could be avoided, if the diagnosis could be made earlier."

Swanberg summarizes his efforts to further simplify the application of heavily filtered radium from multiple centers (Paris Technic) in the treatment of uterine cervical cancer. He believes the simplest technic is the use of his "T"-shaped adjustable uterine radium applicator that is easily assembled in accordance with the length of the uterine canal, and the introduction of bakelite capsules in the vaginal fornices as used at The Radium Institute of London. A statistical summary of the latest five-year studies (1925-29 series) at the University of Paris are given as proof of the unusual efficiency of this method of radiotherapy (464 cases treated with a 35.6 per cent five-year curability).

PUBLIC HEALTH NOTES

State and Local Health Work

The enactment of the Social Security Act, with its contemplated allotments to State departments of health for local health service, opens a new and bright era in the field of public health. However, the advantage that has been gained must not be permitted to lapse through complacency or indifference. Vigorous and continued endeavors will be required on the part of the state health authorities to insure that these essential funds are used to stimulate the further expansion of adequate full-time local health service and the appropriate assumption of responsibility by state and local governing authorities.—P. H. Reports.

Health Conditions in the United States

The death rate for the calendar year 1934 in states reporting to the Public Health Service was 10.9 per 1,000 population. This is 0.4 per 1,000 population (3.8 per cent) higher than the rate for 1933 and for the same states (10.5 per 1,000), but it is lower than any recorded rate earlier than 1932, when the rate was 10.8 per 1,000.

The birth rate for the United States for 1934 is 17.1 per 1,000 population. For 1933 was 16.6 per 1,000. The difference in the rates results from 93,975 more births in 1934 than there were in 1933. The increase of 3 per cent is noteworthy, because the birth rate has been decreasing for several decades.

The infant mortality rate increased in 1934 over the rate for 1933. In the later year there were 129,400 deaths of infants under 1 year of age, as compared with 120,-199 such deaths in 1933. The rates were as follows. 1934, 59.9 deaths under 1 year per 1,000 live births; and 1933, 58.2 deaths per 1,000 live births. However, the 1934 rate is lower than the rate for any year earlier than 1932.

The tuberculosis death rate continued to decrease, and the 1934 rate (56.2 per 100,000 population) was the lowest ever recorded by the Public Health Service.

The typhoid fever death rate for the calendar year 1934 was 3.3 per 100,000 population, and the diphtheria death rate was the same. The decrease in the deaths from these diseases is one of the marvels of the twentieth century and an outstanding example of the results of the application of the principles of modern public health science. In 1900 the typhoid fever death rate was 35.9 per 100,000 and the diphtheria death rate was 43.3. The figures indicate that there were in the United States 91,000 fewer deaths in 1934 from these two diseases than would have occurred if the rates of 1900 had prevailed in 1934.

Tuberculosis Mortality in 1935

The U. S. Public Health Service reports that "Tuberculosis mortality declined from 57.6 per 100,000 in the first half of 1934 to 56.3 in the first half of 1935. The decline in 1935 from the 1934 rate was less than in preceding years. Of twenty-nine states with complete data, in nineteen the rate decreased in 1935 and in ten it increased." These rates are based on current and generally preliminary reports furnished by the state departments of health, and are reported in a general review of mortality during the first half of 1935 in the November 8, 1935, issue.

Dr. Louis I. Dublin, statistician of the Metropolitan Life Insurance Company, believes that the tuberculosis death-rate will continue its downward course in 1936. He is looking forward, indeed, beyond that year—i. e., to 1940. By that time the tuberculosis death-rate in the general population of the United States should drop to 40 per 100,000 population—or even below 40. Fifteen years ago it was 114 per 100,000; by 1934 it had dropped to 56.6, less than one-half the 1920 figure. If the same rate of improvement prevailed in the general population during 1935 as has been observed among the millions of industrial policyholders of the Metropolitan Life Insurance Company, the tuberculosis death-rate for the country should be about 52 per 100,000 in 1935. It is easily seen that if anything like the same rate of decline is maintained up to 1940, the tuberculosis mortality rate for that year will fall well below 40 per 100,000.

BOOK REVIEWS

For and Against Doctors. An Anthology compiled by Robert Hutchison and G. M. Wanchope. Baltimore: Wm. Wood & Co., 1935. Price $2.00.

For generations doctors have incurred the abuse and praise of the laity—both not infrequently undeserved. This book is a collection from the literature, chiefly from non-medical writers, of such proverbs from all generations and countries. They are amusing, but for the most part highly uncomplimentary. In fact, if a physician has a sensitive nature, they are disheartening. Fortunately the most slanderous maxims were engendered before the practice of medicine as we know it today.

Read them, however, and improve your insight into what the patient thinks!

Surgery Queen of the Arts. By William D. Haggard, M.D., P.A.C.S., D.C.L., Professor of Clinical Surgery, Vanderbilt University, Nashville, Tenn. Foreword by W. J. Mayo. Philadelphia and London: W. B. Saunders Co. 1935.

This is a compilation of addresses given before national and other societies by the famous author. They are of general and special interest to all physicians, particularly the surgeons. The case reports are presented in a practical conversational manner and most of them were originally given in the clinic or operating room. They are well illustrated and instructive.

The volume would not be used as a reference work, but constitutes inspiring reading. It would make a splendid gift.

Diet and Die. By Carl Malmberg. Published by Hillman Curl, Inc.

"A startling exposé of the diet fads and medicinal frauds that are ruining the health of thousands of people in their attempt to become unnaturally thin," so runs the description on the jacket of the book. Here is a frank, courageous discussion of the popular subject of dieting to become thin which has swept this country like a pestilence, leaving in its trail the dead and dying. Here is an author with the courage to call a spade a spade. So he dissects and discusses multiple reducing systems pointing out their errors, unscientific foundations, and dangers. He likewise tells what is in those mysterious "obesity cures" that sell at fancy prices.

We are just about to give this interesting little book a four-star rating, when oh, oh, on page 31 he states that "to physicians it is a well-known fact that many of the deaths from pulmonary tuberculosis are directly attributed to starvation diets. Statistics show that out of every ten persons who die from tuberculosis nine were underweight at the time the disease became manifest" and he stops here, leaving the reader with the impression that it was the insufficiency of food intake which brought on the tuberculosis. No, we can't subscribe to that. Many of these tuberculous patients are underweight because they have the disease, tuberculosis—not because they eat this or that. Tuberculosis is a destructive disease. Even in sanitoria it is often impossible to increase their weight by any system of feeding, because of the destructive effects of the active tuberculosis, and not because they eat too little.

On page 33 he suggests that diabetes may be caused by a subsistence diet. No, this won't do. More often diabetes is caused by overeating.

There are other examples of faulty medical reasoning in Chapter 2.

The book, however, makes excellent reading. It shows fine journalistic training on the part of the writer. The subject material is presented in an interesting, entertaining and effective manner.

HARRY GAUSS.

International Clinics. A quarterly of illustrated clinical lectures and especially prepared original articles on treatment, medicine, surgery, neurology, pediatrics, pathology, dermatology, ophthalmology, otology, rhinology, laryngology, hygiene, and other topics of interest by leading members of the medical profession throughout the world. Edited by Louis Hamman, M.D., visiting physician, Johns Hopkins Hospital, Baltimore, Md., with the collaboration of Francis Gilman Blake, M.D., Yale University, New Haven, Connecticut; Vernon C. David, M.D., Rush Medical College, Chicago, Illinois; Dean Lewis, M.D., Johns Hopkins Hospital, Baltimore, Md.; John W. McNee, M.D., University College Hospital, London, Eng.; John H. Musser, M.D., Tulane University, New Orleans, La.; Walter W. Palmer, M.D., Columbia University, New York, N. Y.; Pasteur Vallery-Radot, M.D., University of Paris, Paris, France; Arthur L. Bloomfield, M.D., Stanford University, San Francisco, California; Campbell P. Howard, M.D., McGill University, Montreal, Canada; W. McKim Marriott, M.D., Washington University, St. Louis, Missouri; George Richards Minot, M.D., Harvard University, Boston, Massachusetts; Charles C. Morris, M.D., University of Pennsylvania, Philadelphia, Pa.; E. Rehn, M.D., University of Frieburg, Germany; Russell M. Wilder, M.D., The Mayo Foundation, Rochester, Minnesota. Volume IV. Forty-Fifth Series, 1935. Philadelphia, Montreal, London: J. B. Lippincott Company.

Volume four of this series consists of two sections, medicine and surgery. Probably the two most practical articles in the medical section include one by J. H. Means, M.D., of Boston, Mass., on observation of the tongue, in which he stresses the frequent help to be derived from careful attention to the tongue, not only for diagnosis but as an index to the patient's general condition. The other article of patent value is that of Perrin H. Long, M.D., of Baltimore, Maryland, in which he discusses the value and theory of bacterial vaccines. His summary states that typhoid vaccine is the only vaccine fulfilling the requirements of an efficient bacterial immunizing agent. Other articles of interest deal with such subjects as idiopathic steatorrhea, and hypocytic leukemia (aleukemic leukemia), anemia in pregnancy, illustrated with graphs, generalized argyria, and include the summaries and reviews of the treatment of diabetes mellitus, and the nature of functional disease.

The surgical section is composed of six articles, each of which is illustrated. Practical aid may be derived from studying these subjects presented here: treatment of acute empyema, hour-glass contraction of the stomach, and management of peripheral arterial disease. The more uncommon subjects discussed include congenital cystic disease of the lungs, hysterical contractures, and lymphogranuloma inguinale.

The discovery of various practical suggestions and the reacquaintance with the rarer conditions described are easily sufficient to recommend this volume to the members of the profession.

A. M. WOLFE.

Medical Organization

TENTATIVE PROGRAM

SPRING POSTGRADUATE CLINICS

Pueblo, Colo., April 29, 30, May 1, 1936

(See also the special announcements elsewhere in this issue.)

Presented by the Pueblo County Medical Society under authorization of the Committee on Postgraduate Clinics of the Colorado State Medical Society.

WEDNESDAY, APRIL 29, 1936
ST. MARY'S HOSPITAL

E. D. Burkhard, M.D., Presiding

9:00 a. m. to 12:00 noon.....Symposium on Abdominal Conditions

Traumatic Injuries to Intra Abdominal Viscera.—J. B. Farley, M.D.

Surgical Significance of Abdominal Pain.—J. F. Snedec, M.D.

Digestive Disorders and Their Significance.—W. F. Rich, M.D.

Peptic Ulcer and Its Medical Management.—F. M. Heller, M.D.

The Gall Bladder and Some of Its Misfortunes.—P. M. Ireland, M.D.

Abdominal Pain in Children and Its Interpretation.—J. H. Woodbridge, M.D.

Roentgen Pathology of Acute Intestinal Obstruction.—B. E. Konwaler, M.D.

12:00 to 1:00 p. m.....Luncheon

Guest Speaker, "Medical Economics".....W. W. Wasson, M.D., Denver

1:00 to 3:30 p. m.—The Diagnosis of Tonsillitis.—H. S. Rusk, M.D.

Sinus Infection and Its Management.—O. C. Wise, M.D.

Conditions and Indications for Induction of Labor.—C. N. Caldwell, M.D.

Vomiting of Pregnancy.—J. G. Wolf, M.D.

The Kidney of Pregnancy.—J. J. McDonnell, M.D.

Labor Injuries to the Birth Canal.—E. D. Burkhard, M.D.

Adjournment.

3:50 to 5:30 p. m.....Woodcroft Hospital
Crum Epler, M.D., Presiding

Open House—Hospital Inspection—Social Hour.

7:30 p. m.....Vail Hotel

Complimentary Banquet given by Pueblo County Medical Society to its members and guests.

Guest Speaker.....Paul Maltby Clark, Denver

THURSDAY, APRIL 30, 1936
CORWIN HOSPITAL

Royal H. Finney, M.D., Presiding

9:00 a. m.—Allergic Manifestation.—Royal H. Finney, M.D.

9:20—Simplified Method in Blood Transfusion.—Scott A. Gale, M.D.

9:40—Pyloric Spasm and Obstruction in Infancy.—John Schwer, M.D.

10:00—Silicosis.—Chas. O. Giese, M.D., Colorado Springs.

10:20—Gall Bladder Disease.—Wm. Senger, M.D.

10:40—End Results of Fractures of Neck of Femur.—J. S. Norman, M.D.

11:00—Addison's Disease.—J. W. Craighead, M.D.

11:20—Surgery in Peptic Ulcer.—Geo. H. Curfman, M.D., Salida, Colorado.

11:40—Newer Aspects in Acute Otitis Media.—C. E. Earnest, M.D.

12:00 noon—Cord Bladder and Its Management.—Harold T. Low, M.D.

12:20—Obstetrical Problems.—R. R. Taylor, M.D.

12:40—Pathological Demonstrations.—Josephine Dunlop, M.D.

1:00 to 2:00 p. m.....Luncheon

THURSDAY, APRIL 30, 1936
COLORADO STATE HOSPITAL

F. H. Zimmerman, M.D., Presiding

2:30 p. m.—After the Commitment, Then What?—L. Zbranek, M.D.

3:00—Prevention of the Loss of Weight in the Psychoses.—A. E. Bordner, M.D.

3:15—Encephalography, a Demonstration.—I. Schatz, M.D.

4:15—Fever Therapy and the Inductotherm.—P. S. Wolfe, M.D.

4:45—Interview With the Criminal Insane Under the Barbiturates.—K. M. Kelley, M.D.

Recess.

7:00 p. m.—Complimentary dinner given by the Colorado State Hospital to all doctors attending the Clinics.

Guest Speaker.....Paul P. Prosser, Denver

FRIDAY, MAY 1, 1936
PARKVIEW HOSPITAL

Carl W. Maynard, M.D., Presiding

9:00 a. m.—Rupture of Peptic Ulcers; Case Presentations.—C. W. Streamer, M.D.

9:15—Infections of Hand.—Dwight B. Shaw, M.D.

9:40—Infections of Petrous Portion of Temporal Bone Complicating Middle Ear Infections and Mastoiditis.—Wilson J. Troup, M.D.

9:55—Recess—Inspection of Exhibits, "Fads and Heirlooms."

10:10—Pruritus Ani; Method of Treatment.—Wilbur Lowe, M.D.

10:30—Carcinoma of Kidney.—Geo. M. Myers, M.D.

10:50—Dizziness From an Ocular Standpoint.—Guy H. Hopkins.

11:05—Recess—Inspection of Exhibits.

11:20—Hysteria.—George E. Rice, M.D.

11:40—Recent Trends in the Treatment of Diabetes Mellitus.—F. A. Luqueer.

12:00 noon—Functional Disorders of Menstruation.—Jesse White, M.D.

12:20 p. m.—Endocrine Imbalance as a Factor in Personality Changes; Case Presentation.—W. F. Singer, M.D.

12:30—Luncheon.
Guest Speaker, "The Doctor in Politics."—Walter W. King, M.D., Denver.

N. B. After luncheon there will be a short business session of the Arkansas Valley Medical Society for election of officers.

Have You Your Reservation?

MEMBERS who have not yet reserved their hotel accommodation for the Kansas City session of the American Medical Association had best be about it. Most of the downtown Kansas City hotels will, within the next two weeks, be turning away reservations, if they are not already doing so.

Advance reservations for railroad accommodations also will be wise, for the question of operating special Pullmans or even a special train of Colorado physicians must soon be decided. Those planning to make the trip by rail should make their reservations direct with the railroad offices. These reservations will be accumulated in the Denver offices of both the Missouri Pacific and the Union Pacific railroads, and as soon as numbers sufficient to command special Pullmans are reserved for the same day of departure, arrangements for such cars will be completed.

MEDICAL SOCIETIES

PUEBLO COUNTY

A symposium team representing the Colorado State Medical Society presented an illustrated program on "Cancer of the Female Genital Tract" at the March 3 meeting of the Society, held following a dinner at the Vail Hotel. Dr. G. Heusinkveld discussed the gynecological aspect, Dr. G. Z. Williams the pathological, and Dr. K. D. A. Allen the radiation therapy. Dr. John B. Hartwell, Colorado Springs, Treasurer, and Mr. Harvey T. Sethman, Executive Secretary, of the State Society, also were guests at this meeting.

* * *

DELTA COUNTY

Dr. W. A. Day presented a paper on "Vitamins" at the regular meeting of the Delta County Medical Society held February 28 at the office of Dr. W. A. Loops in Hotchkiss. The paper was enjoyed by all and was generally discussed. After the meeting Dr. Loops served refreshments.

* * *

OTERO COUNTY

Drs. James B. Walton and Daniel R. Higbee of Denver were guest speakers February 13 at the regular meeting of the Society held following dinner at the Kit Carson Hotel in La Junta. Dr. Walton spoke on "Diseases of the New Born" and Dr. Higbee spoke on "Kidney Infections." Both talks were very instructive, and both were followed by interesting questions and discussion.

* * *

NORTHEAST COLORADO

Dr. J. E. Naugle of Sterling read a paper on "Pleurodynia" at the regular meeting of the Society held March 12, at the Sterling City Hall, discussing the series of cases in the last two years which amounted to a small epidemic. Dr. A. J. Markley, President-elect of the State Society, was guest of honor at the meeting, and talked on improvements needed in medical organization. Mr. Harvey T. Sethman, State Executive Secretary, discussed the coming annual convention of the American Medical Association.

WOMAN'S AUXILIARY

PUEBLO COUNTY

The Women's Auxiliary to the Pueblo County Medical Society met Monday, March 2, 1936, at Saint Mary's Hospital. During the afternoon the members made sheets and hand towels for the Pediatrics Department of the Hospital and at the close of the meeting refreshments were served by the Sisters.

At the business meeting Mrs. W. T. H. Baker was appointed chairman of the nominating committee to name officers of the Auxiliary for the coming year. Mrs. J. S. Norman was made program chairman in charge of the annual luncheon to be given by the Auxiliary this year at the time the Spring Clinics sponsored by the Pueblo County Medical Society will be held. The luncheon is given at this time to offer entertainment to the wives of the doctors attending the Clinics.

Mrs. Fred Heller was made chairman of a radio listening committee to give newspaper and local radio publicity to the national program of the American Medical Association offered Tuesdays of each week at 3:00 p. m., M. S. T. The next meeting of the Auxiliary will be held April 6, 1936.

MARY FARLEY,
Secretary.

COLORADO STATE MEDICAL SOCIETY

Officers, 1935-1936

President: Walter W. King, Denver.

President-elect: A. J. Markley, Denver.

Vice Presidents: First, L. W. Bortree, Colorado Springs; Second, Herman C. Graves, Grand Junction; Third, A. C. Sudan, Kremmling; Fourth, C. W. Bixler, Erie.

Constitutional Sec'y.: J. S. Bouslog, Denver (1936).
Treasurer: J. B. Hartwell, Colorado Springs (1938).
(The above officers constitute the Board of Trustees of the Society.)

Executive Secretary: Mr. Harvey T. Sethman, 537 Republic Bldg., Denver; telephone KEystone 0870.

Delegates to American Medical Association: John W. Amesse, Denver (1936); Alternate, John B. Crouch, Colorado Springs (1936); Harold T. Low, Pueblo (1937); Alternate, John Andrew, Longmont (1937).

Councillors:		**Term Expires**
District No. 1	F. W. Lockwood, Fort Morgan	1936
District No. 2	Ella A. Mead, Greeley	1936
District No. 3	George P. Lingenfelter, Denver, Chairman	1936
District No. 4	C. T. Knuckey, Lamar	1938
District No. 5	W. L. Newburn, Trinidad	1938
District No. 6	C. Rex Fuller, Salida	1938
District No. 7	A. L. Burnett, Durango	1937
District No. 8	Lee Bast, Delta	1937
District No. 9	W. W. Crook, Glenwood Springs	1937

Standing Committees, 1935-1936

Credentials: J. S. Bouslog, Denver, Chairman; O. E. Benell, Greeley; O. B. Rensch, Durango.

Scientific Work: Philip Hillkowitz, Denver, Chairman; Thad P. Sears, Denver; Atha Thomas, Denver.

Arrangements: W. W. Crook, Glenwood Springs, Chairman; R. B. Porter, Glenwood Springs; Warren H. Twining, Aspen; F. A. Humphrey, Fort Collins.

Public Policy: William H. Halley, Denver, Chairman; Gerrit Heusinkveld, Denver, Vice Chairman; Hamilton I. Barnard, Denver; Maurice Katzman, Denver; W. T. Brinton, Denver; C. H. Boissevain, Colorado Springs; J. S. Norman, Pueblo; Charles H. Platz, Fort Collins; George H. Curfman, Salida; W. W. King, Denver, ex-officio; J. S. Bouslog, Denver, ex-officio; Mr. H. T. Sethman, Denver, ex-officio.

Publication: C. F. Kemper, Denver (1936), Chairman; C. S. Bluemel, Denver (1937; Osgoode S. Philpott, Denver (1938).

Medical Defense: Frank B. Stephenson, Denver (1936) Chairman; Edward Delehanty, Denver (1937); T. E. Beyer, Denver (1938).

Medical Education and Hospitals: John Andrew, Longmont, Chairman; G. E. Calonge, La Junta; John G. Ryan, Denver.

Library and Medical Literature: Gerald B. Webb, Colorado Springs, Chairman; Frank R. Spencer, Boulder; John W. Amesse, Denver.

Cooperation With Allied Professions: John R. Evans, Denver, Chairman; Herbert A. Black, Pueblo; B. B. Jaffa, Denver.

Medical Economics: W. Walter Wasson, Denver, Chairman; Jack G. Hutton, Denver; Philip Hillkowitz, Denver.

Necrology: A. C. McClanahan, Delta, Chairman; Jefferson C. W. Davis, Denver; Charles B. Dyde, Greeley.

Special Committees, 1935-1936

Postgraduate Clinics: W. T. H. Baker, Pueblo, Chairman; John M. Foster, Jr., Denver; John B. Davis, Denver; G. M. Blickensderfer, Denver; L. N. Myers, Cheyenne Wells.

Cancer Education: Lyman W. Mason, Denver (1936); C. T. Ryder, Colorado Springs (1936); J. B. Hartwell, Colorado Springs (1936); George H. Curfman, Salida (1937); George A. Unfug, Pueblo (1937); J. E. Naugle, Sterling (1937); Carl W. Maynard, Pueblo (1938); Harry S. Finney, Denver (1938); Sanford Withers, Denver (1938).

Tuberculosis Education: Charles O. Giese, Colorado Springs, Chairman; W. N. Beggs, Denver; H. J. Corper, Denver.

Advisory to the School of Medicine: N. A. Madler, Greeley, Chairman; W. W. Haggart, Denver; R. W. Hoyt, Denver; Philip W. Whiteley, Denver; W. B. Hardesty, Berthoud.

Advisory to the Board of Health: John W. Amesse, Denver, Chairman; Ralph S. Johnston, La Junta; Lawrence D. Dickey, Fort Collins; Ralph H. Verploeg, Denver; D. A. Vanderhoof, Colorado Springs.

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Wyoming Section

APRIL
1936

PNEUMONIA SYMPOSIUM

DIAGNOSIS OF BRONCHOPNEUMONIA*

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CODY

Bronchopneumonia is an inflammation which begins in the bronchi and spreads to the parenchyma of the lungs. It is not the purpose of this paper to discuss at length all the details in its diagnosis. However, if this paper will refresh your memory on some of the high lights in the diagnosis of bronchopneumonia, I will feel that the effort is not entirely amiss.

Bronchopneumonia is at times one of the most easily diagnosed diseases we encounter, and at other times may become quite difficult. There are two distinct types of the disease—primary and secondary. The terms are self-explanatory. The more common diseases which may cause the diagnostician some difficulty are acute bronchitis, bronchiectasis, edema of the lungs, lobar pneumonia, pleurisy with effusion, tuberculosis, and appendicitis. There are a few other conditions of a more rare occurrence. The differential points will be taken up in this order.

Acute Bronchitis

First, the percussion sound is never altered in uncomplicated bronchitis; second, blowing sounds are never heard; third, the vesicular murmur is sharp and loud; fourth, there is prolonged expiration; fifth, cyanosis and increased respiration in dyspnea which is not relieved by coughing (thereby clearing the bronchial tubes) indicates that the condition has become one of bronchopneumonia. The epigastrium and hypochondriac regions remain normal in acute bronchitis, but are retracted in bronchopneumonia.

Bronchiectasis

This condition will be determined by the etiology and a few physical signs such as profuse expectoration of a grayish brown and frothy appearance with disagreeable odor. Coughing is usually paroxysmal and is incited by changing position.

Edema of the Lungs

The failing heart is one of the most common etiologic factors, associated usually with a rapid onset, cyanosis, shallow respiratory movements, weak pulse, moist bubbling rales and frothy expectoration which presents a differential picture from a true bronchopneumonia.

Lobar Pneumonia

The history, the age of the patient, the mode of onset and the physical findings will usually differentiate between lobar and bronchopneumonia. The history of bronchopneumonia in a large percentage of cases will show a predisposing cause, such as cold, influenza, measles and whooping cough. However, with a primary case of bronchopneumonia with consolidated lobules that coalesce, especially if the onset is ushered in with a chill, it is impossible in the early stages to differentiate. A laboratory test showing the infecting organism to be the pneumococcus, and a fever that remains high without fluctuation, and a blood count showing 20,000 to 40,000 leucocytes, with approximately 90 per cent of polys, would indicate the lobar type. Radiographs will also assist in determining this condition, as well as in tuberculosis and pleurisy with effusion. Lobar pneumonia is usually unilateral, bronchopneumonia bilateral.

Pleurisy With Effusion

The onset of pleurisy before effusion takes place consists usually of a sharp pain in the side, a dry painful hacking cough, temperature lower than found in bronchopneumonia,

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with pain subsiding as effusion takes place. Expansion of the two sides is unequal; tactile fremitus is absent or decreased on the affected side, unless the two layers of the pleura are connected by adhesive bands which sometimes make a misleading picture. Finally, an exploratory puncture and a radiograph will complete the differentiation without question.

Tuberculosis

Acute tuberculosis is sometimes associated with bronchopneumonia and therefore takes on some of the pneumonic symptoms. The history of loss of weight, susceptibility to colds, afternoon or evening fever and the physical signs in the apex of the lungs would make one suspicious of tuberculosis. Radiograms and the clinical course of the disease with sputum analyses definitely establish a diagnosis.

Appendicitis

Pulmonic infections in the lower border of the lungs, especially in children, are oftentimes ushered in with vomiting, convulsions and abdominal pain. Therefore, one should make a very thorough examination of the chest before submitting to an appendectomy. The x-ray will be of assistance.

Summary

Bronchopneumonia is diagnosed by history, mode of onset, small area of consolidation, fluctuating temperature, rapid respiration, cyanosis, dyspnea, sputum analysis, radiograms, blood count showing leucocytes less than 20,000, and finally the clinical course of the disease.

LOBAR PNEUMONIA IN THE ADULT*

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Lobar pneumonia is a disease which has been known since the time of Hippocrates. Our modern knowledge of this disease dates from the time of Laennec in 1819. He very ably described its physical signs and anatomy and leaves very little for the present-day observer to enlarge upon. Osler, in discussing this disease, used a phrase as applied by John Bunyan and calls it the "Captain of the Men of Death." In 1932 there were 1,308,524 deaths reported in the United States due to all causes; of these 92,474 were due to pneumonia in all forms and 49,524 of these were due to lobar pneumonia.

The organism which is usually accountable for this infection is the diplococcus pneumoniæ. Other organisms, it must be held in mind, may be accountable for lobar pneumonia, but the largest percentage can be attributed to the pneumococcic organism.

In the last few years a large amount of work has been done by such men as Krumviede, Dochez, Cecil, Felton, Sabin and many others in regard to the typing of the various pneumococcic organisms causing this disease, thereby making a great contribution toward the treatment of this disease. As many as thirty-two different types of pneumococci have been recognized. Of these only Types I, II, and III so far have possibilities of specific treatment. This pneumococcic organism is carried in the mouths and throats of normal persons, and exposure and lowering of resistance favor a condition which allows the organism to grow and bring about a pneumonic infection.

Pathology

Since the time of Laennec, pathologists have recognized four stages in the lungs during this disease, in which the physical findings in various stages will vary. They are, namely:

1. Engorgement, a condition in which the lungs will crepitate to some extent but are a little edematous. In this stage the capillary vessels are greatly distended, the alveolar epithelium greatly swollen, and the air-cells contain a large amount of blood corpuscles and leucocytes.

2. Red hepatization, a stage in which the lung tissue is solid, firm, and airless. The air-cells are filled with coagulated fibrin that contain red blood corpuscles, leucocytes, and alveolar epithelium.

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3. Gray hepatization, in which the color of the lung tissue changes from red to gray. The lung is non-air containing, the tissue is more moist, and a turbid fluid can be expelled from it. The air-cells are distended, densely filled with leucocytes, and the fibrin network has largely disappeared.

4. Resolution. In this stage the lung is soft, friable, translucent and jelly-like. In this stage an autolytic digestion by proteolytic enzymes takes place in the exudate. The cells of the alveolar walls proliferate and renew the lining of the alveoli.

Very little involvement of the lung tissue itself occurs in pneumonia. The entire process seems to occur in the alveolar spaces and the superficial epithelium of the air spaces, so that complete restoration of the lung is accomplished after the inflammation subsides. In rare cases organization or carnification of the exudate may occur, instead of its undergoing resolution. It is then invaded by blood vessels and fibroblasts. The cells in the alveolar walls proliferate and new connective tissue grows into the exudate, capillaries form, and new tissue replaces the inflammatory tissue. The lung is now fibrotic and does not return to normal.

Clinical Course of the Disease

The period of incubation of pneumonia is not definitely established. The symptoms and progress with which we are all familiar are as follows:

Prodromal symptoms are usually lacking, but there may be some catarrhal and respiratory symptoms with generalized aching and lassitude a few days previous.

As a rule the disease starts abruptly with a chill. According to Norris, 58 per cent of his cases had a definite rigor and 30 per cent had chilliness. Jurgensen says that 60 per cent of all cases have either a chill or chilly sensations at the onset. Fever begins during or after the initial chill and usually goes from 103° to 105° at the onset. In those cases without chill the fever does not usually reach its maximum for about three days. The patient usually complains of headache, pain in the side and a short, dry, painful cough begins. The respirations are increased in frequency.

On the second or third day the face is usually flushed, the breath is hurried, there is a short expiratory grunt and the alae nasi dilate with each inspiration. The expectoration is blood-tinged and soon becomes extremely tenacious and rusty in color and is removed from the lips with great difficulty. It is usually referred to as "prune juice" sputum, but it must be remembered that this type of sputum may also be found in pulmonary edema and gangrene of the lung.

The temperature usually remains high throughout the disease until the crisis occurs and then drops rapidly to normal, which is the usual termination of lobar pneumonia. The crisis usually occurs from the fifth to thirteenth day, but is known to have occurred as early as the second or as late as the twentieth day.

The pulse during the chill is usually small, rapid and hard, and afterwards becomes full and bounding. It remains accelerated during the course of the disease and usually varies from 105 to 115. A rate of over 125 in adults is usually considered a bad prognostic sign.

The blood pressure in pneumonia has been much discussed by various writers and usually in toxic cases drops about 15 millimeters of mercury. However, in many cases a normal blood pressure may be maintained throughout the course. A gradual progressive fall of the blood pressure is significant of cardiac weakness, and is an indication for treatment.

Cyanosis is usually a constant finding in pneumonia, but in about 10 per cent of the cases it is not very intense. Most clinicians describe this phenomenon to a disturbance of respiration, but a few clinicians still regard it as a circulatory embarrassment and treat it as such. When cyanosis appears early in the course of the disease it is a grave prognostic sign.

The gastro-intestinal system, as in most febrile diseases, is usually affected. The tongue is usually dry and heavily furred. Vomiting may be present at the onset and the appetite is lost. Constipation is more apt to be present than diarrhea. In the severe toxic cases tympanites and meteorism are distressing and dangerous symptoms. Hic-

coughs and abdominal pain may be present and are usually indicative of diaphragmatic pleurisy and peritonitis.

Herpes is present more often in this condition than in any other disease and usually occurs, according to Osler, in from 12 to 40 per cent of the cases. It is supposed to be indicative of a favorable prognosis.

Mental disturbance and delirium are very often present, especially in the very toxic cases, and very often an acute mania develops to such an extent that the patient must be restrained in bed. Delirium and headache may be present from the onset, thereby confusing this disease with meningitis. In apical pneumonia delirium is usually a constant finding.

Laboratory Findings

The leucocyte count in lobar pneumonia usually ranges from 15,000 to 35,000. A low leucocyte count in a definite pneumonia is considered a bad prognostic sign. Early in the disease the differential blood smear shows a predominance of immature neutrophiles, and there is a marked lymphopenia. When the Schilling count shows a progressive shift to the left, it is indicative of a poor prognosis. On the other hand, if the blood picture begins to shift to the right, that is, if the number of immature neutrophiles appear to be getting less while the mature cells begin to show a relatively increase, it is a good sign that there will be clinical improvement and may precede the clinical signs by some twelve to twenty-four hours.

Blood cultures taken in pneumonia are of prime importance in making an accurate diagnosis, especially if the serum treatment is used. However, in some cases positive blood cultures cannot be obtained and the sputum must be relied upon to determine the type of pneumonia that is present. When the type of pneumonia can be accurately proved, much help in the way of treatment in Types I and II pneumonia can be given by the antipneumococcus serum.

The urine has the usual characteristics found in febrile diseases, namely, it is scanty, of high color, shows an increased specific gravity, contains a trace of albumin and often has a few casts. The excretion of chlorides is partially or completely suppressed more often in pneumonia than in any other febrile disease. After the crisis the output of chlorides returns to normal. Dochez and Avery have demonstrated a specific soluble substance in the urine which gives a precipitin reaction with antipneumococcus serum corresponding to the type of organism with which the individual is infected. They have found this substance in the urine of more than half of the patients studied and it may be detected as early as twelve hours after the initial chill, or it may not appear until the later stages of the disease. It is generally found when a pneumococcus sepsis exists and is an index to the severity of the disease. The type of pneumococcus responsible for the infection may be determined by this method.

Physical Findings

Inspection yields very useful diagnostic data. The patient usually rests more comfortably on the affected side. Frequently there is a limited expansion on the side of the diseased lung. In small lesions there may be no difference in the expansion of the chest. The breathing is usually rapid and shallow and the movement of the alae nasae can be seen. There is usually a limited movement of the diaphragm, as evidenced by a disturbed Litten's sign.

Palpation. The lack of expansion of the affected side of the chest may often be noted by palpation. A pleural friction rub if present may be felt. Very early in the disease there may be a diminution of vocal fremitus, but after a few hours there is a marked increase in voice fremitus when compared to the healthy side. However, in massive pneumonia there may be a diminution of fremitus and the same thing may occur if there is a marked pleural thickening or if a pleural effusion is present. In deep-seated or central pneumonia the fremitus may be unchanged.

Percussion. During the stage of engorgement the percussion note may be tympanitic in character, but when the stage of consolidation is reached the percussion note is dull. The area of dullness is usually larger in extent than the consolidation itself. At this point of the physical examination errors are

apt to occur, due to the fact that both the front and back of the chest and the axillary regions are not carefully percussed and the area of dullness may be very small and hard to detect. In central pneumonia the percussion note is often unchanged and other data must be relied upon to make the diagnosis. During resolution the dullness usually disappears and the tympanitic quality of the note may return. For weeks, and even months, after convalescence the percussion note may be higher pitched on the affected side.

Auscultation. Suppression of the breath sounds is usually the first auscultatory finding in pneumonia. The discovery of suppressed or diminished breath sounds with a few crepitant rales a few hours after a chill are very strongly suggestive of a developing consolidation. However, for the first few days the respiratory sounds may be practically unaltered. As the stage of consolidation is reached expiration is lengthened, its pitch becomes higher, and the breath sounds become bronchial or tubular in character. However, in the case of massive pneumonia, tubular breathing is absent. If pleural thickening is marked or the bronchi obstructed, tubular or bronchial breathing may be present throughout the course of the disease. Crepitant rales are usually present before consolidation is complete and are heard in showers toward the end of inspiration, do not disappear on cough, and when consolidation becomes complete they disappear.

Resolution is usually detected by the appearance of moist rales, diminishing dullness and the return of breath sounds to normal. The physical manifestations of consolidation do not disappear at the crisis and usually persist for several days afterward. In some cases of delayed resolution the signs of consolidation may be present for weeks or months.

Clinical Types of Pneumonia

The pneumonic process is usually more prevalent in the right lower lobe than in the left, and less often both lower lobes may become affected. It must be remembered that the disease, however, may originate and be confined to an upper lobe, the middle lobe of the lung or an entire lung, and these conditions, in my opinion, are the ones in which the diagnosis of pneumonia is most often missed.

Apical Pneumonia. Pneumonia may occur in which the upper lobe alone is involved. This condition is usually characterized by delirium at the onset and may be confused with the beginning of meningitis. The upper right lobe is more often involved than the left, and pericarditis may occur as a complication, more so than in any other type of pneumonia. The presence of this type, of course, cannot be found unless the chest is carefully examined both posteriorly and anteriorly, as any good clinician should do.

Middle Lobe Pneumonia may often exist and not spread to the other lobes, and if the anterior chest is not examined as carefully as the posterior it may be missed.

Massive Pneumonia is a term applied to a consolidation of the lung in which there is complete blocking of the bronchus. The physical signs may be confused with that of a pleural effusion, but Grocco's sign (a paravertebral triangle of dullness adjacent to the affected side) is absent in pneumonia. It may necessitate an x-ray or exploratory needle to differentiate it from a pleural exudate.

Central Pneumonia. When a consolidation appears in the depth of the lung or the hilum, the term "central pneumonia" is generally used. In this condition the physical signs of pneumonia may often be lacking and an x-ray may be necessary to differentiate this condition.

Migratory Pneumonia is a term applied to pneumonia in which different lobes of the lung become involved. As resolution is established in one area consolidation appears in another. Several lobes may be involved and the disease run a protracted course. Consolidation may occur in one portion and the fever immediately arise without beginning of symptoms in another. In the writer's opinion, this condition starts as a series of atelectatic areas that finally become pneumonic.

Senile or Terminal Pneumonia. This term is applied to a pneumonic process that occurs in the aged or following debilitating chronic

diseases. It is characterized by the absence of the typical onset of lobar pneumonia. Cough and expectoration may be absent, but the physical signs are present.

Diagnosis

In a typical case of lobar pneumonia diagnosis is seldom difficult. However, lobar pneumonia does not always present the typical picture that I have painted for you and may tax the most skilled diagnostician to differentiate it from other conditions. The history of a chill, pain, fever, rapid shallow respiration, cough, tenacious, rusty sputum, herpes, leukocytosis, localized signs of consolidation and the suppression of urinary chlorides make a sure diagnosis.

Differential Diagnosis

The following conditions are usually more often confused with lobar pneumonia than any other disease:

Pleural Effusions may often be mistaken for lobar pneumonia. In pleural effusions there is a limited expansion of the chest, a diminution or absence of vocal fremitus, a board-like flatness on percussion and a diminution of the voice sounds, and at times the compression of the lung tissue adjacent to pleural effusions may give signs of consolidation. But in these cases the history of onset, the absence of a chill, blood-stained sputum and displacement of the heart away from the affected side, are points against the diagnosis of pneumonia. In case of question an exploratory needle may and should be used to differentiate this condition. An x-ray, of course, will give the decisive differential data.

Atelectasis may present signs difficult to differentiate from pneumonia, and is frequently confused with postoperative pneumonia. I have found atelectasis present more often when called in consultation following a surgical operation than I have lobar pneumonia. The onset in atelectasis is usually sudden but the chill is lacking. The pulse rate and respiration are very rapid and cyanosis may be marked. The sputum is mucopurulent but does not contain blood as in pneumonia. However, careful inspection of the chest should easily differentiate this condition. In atelectasis the heart is definitely pulled toward the affected side and if the patient can be made to breathe deeply a percussion note change may be found. Rolling the patient on the unaffected side and encouraging him to take deep breaths will usually reveal different physical findings than found in pneumonia. To accomplish this purpose I usually give the patient a mixture containing 5 to 10 per cent carbon dioxide in oxygen five minutes out of every hour, which usually relieves the atelectatic condition and prevents the development of pneumonia.

The x-ray findings are very decisive in making a diagnosis of atelectasis, inasmuch as the heart is shown pulled toward the affected area and the rib spaces are much narrower on the affected side, and the character of density is different from that found in lobar pneumonia.

Infarction of the Lung may closely simulate lobar pneumonia, inasmuch as the history in the case may be identical. However, in patients who have a chronic endocarditis, peripheral thrombosis, sepsis of puerperal or of other origin, or where there have been some other injuries, infarction must be thought of. The sputum in infarction is bright red and not "prune juice" in nature. Blood and sputum cultures are very helpful diagnostic aids in differentiating these conditions. A chill and rapid rise in fever are not so apt to be present in infarction.

Interlobar Empyema may give all the signs of consolidation in pneumonia. The reappearance of fever, chills, anemia and prostration, with a continued leukocytosis should make one suspicious of this condition. An exploratory paracentesis and an x-ray may be necessary to differentiate this condition. Incapsulated empyema may give definite physical signs posteriorly and none anteriorly, but knowledge of the positions of the lobes of the lung should help differentiate this condition, but an x-ray usually is necessary.

Acute Tuberculous Pneumonia may be at the onset very similar to that of lobar pneumonia and may be characterized by the signs usually found in pneumonia. However, the history of previous tuberculosis should make

us think of this condition. In tuberculous pneumonia the sputum is less tenacious, leukocytosis is not so marked, hemoptysis is more common, and cyanosis and emaciation are more intense than in lobar pneumonia. However, the demonstration of tubercle bacilli in the sputum should help us differentiate this condition. True lobar pneumonia rarely ever occurs in a definitely tuberculous individual.

Bronchopneumonia may be confusing when there is a pseudo-lobar consolidation of the lungs present. However, the difference in onset, the termination by lysis and the differential laboratory and physical signs should not allow confusion of these two conditions. The x-ray signs are definitely different.

Meningitis at its onset may be wrongly diagnosed for pneumonia, due to the marked cerebral symptoms, but the presence of rigidity in the neck and the failure of the development of pulmonary signs should immediately differentiate this condition. Spinal fluid examination should be done where there is any question as to diagnosis.

Typhoid Fever and pneumonia should not be confused, but at times both have a history of an onset chill, thoracic pain and herpes, with shallow respirations; and before the physical signs present themselves in the chest, it may be confusing. However, a leukocytosis and suppression of the urinary chlorides should at once exclude typhoid fever.

Acute Abdominal Diseases at times may be somewhat confusing with a starting pneumonia, especially when there is some irritation of the diaphragm. However, careful examination of the abdomen, combined with laboratory studies and chest findings should serve to differentiate these conditions.

Kalteyer stresses the value of the respiratory rate in differentiating perforated gastric ulcer, acute appendicitis, and acute cholecystitis from early pneumonia. A respiratory rate of from 25 to 30 is more suggestive of gastric irritation, while a rate of over 40 points to pneumonia.

Malignancy of the lung with a pneumonitis is very often confused with pneumonia when a history of the onset is lacking, as the physical signs may be those of consolidation. However, the continuance of fever without a crisis and the clinical picture of pneumonia should at once differentiate these two conditions. An x-ray of the lung is very valuable in differentiating them.

Tularemic pneumonia and true pneumonoccic lobar pneumonia are almost identical except the former has a low white count, and as tularemia is found in this region, agglutination tests should be done to differentiate these conditions.

Conclusions

1. There has been no great change for a number of years in our conception of pneumonia as characterized by the history and physical findings.

2. Pertinent laboratory data have been advanced in the last few years to help us in the diagnosis of pneumonia.

3. A careful taking of the history and a careful physical examination are the most important features in making an accurate diagnosis of pneumonia.

BRONCHOPNEUMONIA IN INFANCY AND CHILDHOOD*

INCIDENCE, PROGNOSIS, AND TREATMENT

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If any justification were required for your selection of pneumonia as a topic for discussion on this occasion, the fact that this ubiquitous foe of life at all ages and in every clime continues to be a leader among those major affections of mankind, aptly termed by Osler "The Captain of the men of death," would amply furnish such defense.

Like the proverbial poor—and appendicitis—pneumonia is with us always; its life history has never been fully revealed; many

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of its problems are still elusive; it still remains "the most widespread and the most fatal of all acute diseases" (Osler). This is particularly true of bronchopneumonia at the threshhold of life. Notwithstanding the intensive world wide investigations by generations of trained observers, more deaths are still occasioned by respiratory diseases than any other causes except circulatory disorders, which are chiefly manifested beyond middle life. Census reports confirm hospital records in showing that pneumonia and allied infections constitute two-fifths of all sources of illness and one-third of all deaths among young persons; bronchopneumonia still accounts for as many fatalities as it did twenty-five years ago in the United States—a formidable indictment and a major challenge to scientific medicine.

It will be noted that 75 per cent or more of invasions of bronchopneumonia occur before the age of two. As a matter of fact this disease was regarded as essentially one of early life up to a few years ago.

The brief period necessarily allocated for the consideration of this phase of our symposium will not permit more extensive discussion of the incidence of lobular pneumonia in early childhood. We may only call attention to the important division into three clinical forms as seen in private and hospital practice; the primary, developing suddenly, perhaps in the course of an attack of rhino-pharyngitis, but more frequently as a coincidental involvement in acute bronchitis; the secondary type, appearing as a complication of one of the infectious fevers or of whooping cough; and the terminal form, so often closing the picture in severe nutritional disturbances of infancy, particularly among the underprivileged classes where continued neglect of the very rudiments of hygiene provides a ready soil for the growth of the micro-organisms concerned. This same syndrome will be recalled in the clinical history of disorders incident to old age and may, therefore, be found from the beginning to the close of life.

Prognosis

In view of the many factors involved in the etiology of bronchopneumonia, the prognosis will vary. In young infants it constitutes one of the most formidable threats to life, but this menace is diminished inversely with age until at five or six years, the death rate is moderate except where the disease exists as a complication of one of the acute contagions. In the course of measles, whooping cough, influenza, scarlet fever and diphtheria, the added weight of this infection may, and frequently does, throw the scales against the patient.

The prognosis is also better when the temperature remains rather high than when there are fluctuations, giving the clinical aspect of remittent or intermittent fever. On the other hand, a continued hyperpyrexia, for example a range of 104.5° to 105° must be looked upon as a dangerous invasion. Occasionally the temperature may reach 107° or there may be total freedom from fever, and the case still go on to recovery.

Another valuable prognostic sign is the condition of the pulse; if this is excessively rapid, irregular or continually of poor volume, the outlook is unfavorable because it usually signifies beginning dilatation of the heart. Equally important in estimating the gravity of the case in any stage is the respiratory situation. An infant may be convalescing to recovery with a rate of 70 or more but should this suddenly increase, vigilance must be redoubled; it becomes an ominous sign. A further symptom which the medical attendant keeps constantly in mind is the character of the cough; if it is strong and productive, one feels it is aiding the forces of nature in clearing the airways; if it is feeble and dry the lungs readily fill and cyanosis results. Convulsions are commonly looked upon as a sign of serious import, yet they may usher in a case of bronchopneumonia which yields rapidly to treatment without residual damage to the central nervous system. Later in the clinical course, however, convulsive seizures are a matter of concern and justify an unfavorable prognosis. To a lesser degree, tympanites and cyanosis may interpret the outcome in pneumonia of the very young.

In any event, experienced practitioners are usually reluctant to offer any prognosis

whatever before the end of the first week; false crises are common throughout the febrile period and errors in judgment quite as common. One should withhold an opinion, in any infection as grave as this, until the reaction of the little patient can offer a definite appraisal of its reserve forces.

Treatment

The prevention of pulmonary complications in the course of infectious fevers has not been adequately stressed. Prophylactic measures in the course of measles, for example, if only extending to the proper disinfection of the mouth and nasal passages, may reduce the incidence of pneumonia; oral hygiene is particularly important, as well as the skillful care of all incipient disorders in the upper respiratory tract. In this connection it must be recalled that very few cases of pneumonia in infants are due to the pneumococcus alone; there is practically always a mixed infection traceable to a preceding rhino-pharyngitis or laryngitis; active and persistent treatment of bronchitis is mandatory. Pneumonia may be avoided frequently by isolation of the patient in well-aired rooms, open to the sun but free from drafts, and by providing suitable clothing—a closed chapter in the domestic training of the average mother.

When bronchopneumonia appears, in spite of such precautions, the wisdom and understanding of the physicians are taxed more severely still. In a disease of such violent manifestations it is not easy to ignore suggestions for over-treatment from anxious relatives, and to keep one's feet on the ground. Probably in no other disease, save possibly typhoid fever, does intelligent nursing care play so prominent a part.

General considerations: In the absence of specific treatment, which will be discussed later on, our obligation would appear to be concerned wholly with the management of symptoms as they arise, the conservation of the child's strength to combat the toxemia and the prevention, so far as possible, of complications. In the secondary form of bronchopneumonia, it also involves the management of the original infection. Our entire armament must be resilient enough to meet the demands of the individual case, with its known components of age, severity, concomitant infections and previous history.

At the outset we invoke all those measures of hygiene which promptly occur to the trained clinician and which need not be described before this assembly; their importance is obvious and their observance is an inherent duty, inseparable from modern practice. It would likewise be trite to remind a medical audience that the best service will be accorded only when one is familiar, not only with the problems of diagnosis, but with all the features involved in the pathogenesis. Which brings the subject to

Therapeutic Indications

These are concerned, in the average case, with the temperature; the respiratory integrity, as demonstrated by the physical signs and symptoms; the radiographic studies, when these are feasible; the general condition of the patient and his vital processes. As Nobecourt[1] remarks in his splendid treatise, "to meet these indications, the practitioner has at hand, if not a specific, at least many valuable remedies, some with a physiological action, some with a symptomatic action, such as antipyretics, anti-dyspneics, stimulants, expectorants, etc. Other agents may be considered as possessing an anti-infectious property."

Although occasionally absent, fever is usually one of the chief features of pneumonia in young persons. It may appear abruptly and be brusque and progressive or it may be moderate and disappear by crisis; in any case it is a safe index of the severity of the disease. The control of fever, therefore, engages one's attention continually and becomes a major item in the management of a given case. All authorities agree that hydrotherapy in some form is the most useful agent, whether administered in the form of baths, packs, sponges or irrigations, at varying temperatures. "The bath not only reduces the fever—it has a more complex action, provoking vaso-dilation of the peripheral vessels and vaso-constriction in the lungs, to encourage pulmonary ventilation."

Mustard packs are recommended by many observers, not only as a counter irritant, but for the control of hyperpyrexia. Many with

extensive experience look upon applications of mustard in any form as merely a placebo. Where hydrotherapy cannot be safely carried out, as in the average home during the winter season, when pneumonia is especially prevalent, we must depend upon other antipyretics, and among the many now utilized, acetyl-salicylic acid is probably the most dependable, with antipyrin the choice of a large number of physicians on account of its solubility.

Dyspnea and Cyanosis

Of equal importance, in many instances of much greater importance, is the management of respiratory embarrassment leading to dyspnea and cyanosis. Here again there is practically universal agreement on the value of oxygen inhalation, with or without CO_2. Looking backward to the day, not so far distant, when this life-saving gas was administered through a funnel, we can understand the keen disappointment attending its use and the difficulty the procedure encountered in establishing itself as a remedy of vital importance. The explanation, of course, was that the patient was either receiving no oxygen at all, or in such dilution as to have a negligible action. Given to a child struggling against toxemia in its gravest form, by nasal catheter or under one of the convenient tents now available everywhere, the effect of oxygen is always salutary and often magical. The duration of administration must vary with the condition of the case; it may be interrupted or continuous and, as noted above, may, with advantage, be combined with carbon dioxide, 5 to 10 per cent. Oxygen not only ventilates the lungs but dries the upper air passages and improves the tonus of the respiratory muscles. It should not be overheated nor given in greater concentration than 45 per cent. The oxygen tank in the home is happily no longer a forerunner of crepe on the door!

A perfect legion of symptomatic remedies have been used even in our alleged scientific era; a few of these have survived the test of time and trial and will be discussed briefly. Undoubtedly the most deservedly popular of these agents is alcohol. Up to the last year or two it has been given orally in one of its many preparations, usually well diluted, in the belief that, if its effect was not frankly that of a stimulant, it could be relied upon to dilate the superficial vessels, in addition to providing easily assimilated food. In 1927 Thurz introduced a method of intravenous injections of alcohol in the treatment of cancer and puerperal septicemia. Since that time it has been employed by Landon in suppurative pulmonary affections and by other investigators in the therapy of various septicemic conditions and especially in abscess of the lung.

Cruchet, Maupetit and Saric[2] discuss the mechanism of its action. Many theories have been advanced such as the bactericidal value of alcohol; the fixation it may effect on the reticulo-endothelial system of the lungs; its direct bacterial action through the liberation of CO_2 in the parenchyma of the lungs by combustion; the deviation of the iso-electric elements of the serum protein, etc. None of these hypotheses, so recently formulated, have been scientifically confirmed, but the fact remains that if alcohol can be carried directly through the lungs before it has been metabolized by the liver, its very definite qualities of phylaxis may be exercised.

French and Spanish clinicians now use, in desperate cases of bronchopneumonia, intravenous injections containing absolute alcohol 33 per cent and glucose, 4 per cent solution, 67 per cent. Of this 8 to 10 c.c. is administered very slowly each day for several days. Sclerosis of the venous wall seems to be the most valid objection to the use of alcohol by this route, but with adequate dilution such accidents as this, as well as the dangers of hemolysis and icterus, are eliminated.

Atropine

Another drug which measures up to every demand is atropine. In cardiac or respiratory failure, especially when associated with pulmonary edema and cyanosis, its value has been attested in countless instances. It may be given in relatively large doses without danger and preferably by subcutaneous injection.

Auxiliary agents in re-enforcing the known value of oxygen, alcohol, and atro-

pine are limited in number but often extremely helpful. They deserve more than mere mention of caffein, digitalis and epinephrin for the failing heart; codein, to secure rest and sleep; ether and camphor for stimulation; chloral and phenobarbital for convulsions; warm, moist air to relieve the cough; perborate of soda solution to cleanse the mouth. Frequently there will be indications for transfusion, for the intramuscular injection of whole blood or the intravenous introduction of saline or glucose solutions; this demand usually develops in the course of a grave invasion in a child enfeebled by preceding or intercurrent disease and should be met with promptness. In excessive depletion the lower limbs may be tightly bandaged and in the case of sturdy, full blooded children threatened with cardiac dilatation, phlebotomy may be a life saving measure. Bleeding was formerly practiced too much while at present it is practically not utilized at all; somewhere between these extremes would seem a wise course to pursue.

Within the past few years, physiotherapy has been advocated in the treatment of bronchopneumonia and many favorable reports have been published on the use of diathermy. This is unquestionably of value, not only in bronchopneumonia but in pleurisy. It provokes perspiration and its use is usually followed by restful sleep, but its action is not clearly understood. The ultraviolet lamp is used by some and excellent results are also claimed for this additional weapon in the conquest of such an implacable enemy.

These considerations lead us to a discussion of a still more modern principle embraced under the general terms of

Specific Treatment

It would be strange indeed if biological agents, so effective in the treatment of many other infections, were not sought for with diligence and hope in the pursuit of a safe and certain remedy for this major disorder of mankind. While it would be impossible, in the scope of a brief paper to review the vast literature of this research, with alternating reports of success and failure, it may be said that no specific treatment has been developed except for the type I pneumococcic invasion, in which the homologous anti-pneumococcic serum is employed with gratifying success. There is no conclusive evidence that sera of any variety are helpful; they are all in the experimental stage. In this connection it must be borne in mind that the pneumonia of early life is usually concerned with Type IV. The further difficulty and the attendant delay in typing, where the patient is at a considerable distance from adequate laboratory facilities, make such investigations almost prohibitive.

The same is true of bacteriotherapy; few observers feel that vaccines are of definite value in the management of bronchopneumonia, as carefully supervised studies have given such varying results.

The future—let us hope the very near future—holds the solution of this foremost problem.

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THE TREATMENT OF PNEUMONIA*

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In reviewing pneumonia from the standpoint of treatment and comparing the results at the various clinics and experimental laboratories, it seems the medical profession is still handicapped. The work that has been done by Cecil and his associates, which they have reported at intervals since 1920, has been interesting. However, conclusions from them seem more encouraging than are justified in other localities under different conditions. On account of the mortality rate from pneumonia, the medical profession is on the alert to find something new which might aid the patients' recovery. Because of our desire to help our patients, we over-treat or may omit simple remedies and concentrate

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too much on the new or heroic measures. In this paper I wish to review the ideas of others and add what my experience permits.

In many clinics mortality rates are lower than in others. The reports are absolutely true as we read them, and the success may have been due to some specific treatment which that clinician has followed and studied, but, at the same time, he has not forgotten the supportive measures which have influenced his success and the knowledge that a well-supported body withstands a great deal of bacterial invasion. There are very few pneumonic cases that are not accompanied by or associated with some complication. We frequently see an apparent robust patient succumb to the ravages of pneumonia in a very few hours. The virulence and kind of organisms and the resistance of the patient are involved, but how frequently a complication causes death to the patient who should have weathered the disease. Pneumonia is a septic infection and exerts the most profound intoxication upon the system. Each individual is affected differently, not only on account of the disease itself but his reaction to any treatment. There are variable reactions to serums, kidney function, extent of involvement, type of infection, condition of the circulatory system, added infections, blood chemistry, et cetera.

So far, serum treatments have varied greatly with different clinics and the results are misleading. The most severe pneumonias commonly afford positive cultures and need specific serum early if results are to be obtained. In congested areas, more cases are seen, facilities are better, patients are seen earlier and transportation is the best. In other words, organization exists, and each case is managed in every detail essentially the same. In more sparsely settled communities, delay in calling the doctor, delay in transportation, and inexperienced help, with greatly delayed hospitalization, makes early serum treatment impossible, with consequent high mortality rate.

Cole, beginning his work in 1913 with his type one and polyvalent sera, reported a large series of cases in which he claimed a decrease in mortality from 25 to 7 and 10 per cent. However, no wide use followed this work. Cecil and Blake claimed this was due to the fact that the profession lacked familiarity with the subject, experience in technic was missing, accurate and early typing were unobtainable and, above all, there was skepticism. Those who used it claimed failures because their doses were too small and infrequent, the cases were typed poorly, and sera were given too late in the disease. Since that time, Cecil, Blake, Steffen, Maldwin, and Larson have worked on the subject continuously and have no doubt given us the best answer and the best preparations up to the present time.

In the Journal of Experimental Medicine in 1921, Cecil and Steffen asserted they had produced a three shot Type I vaccine which gave immunity to monkeys against Type I pneumonia. I have not known of this being given in the human being. Cecil and Larson reported in the J. A. M. A. in 1922 a series of 834 cases treated—424 with serum with the mortality of 21.4 per cent with 44 complications, and 410 not treated with a mortality of 28.3 per cent and 54 complications. A study of Cecil published in the J. A. M. A. in 1930 summarized pneumococcus pneumonia as follows:

1. A series of 3,662 cases of pneumococcus pneumonia in adults and 271 cases in children have been studied clinically and bacteriologically. Of this series 1,161 cases were Type I infections and form the basis of this study.

2. Type I pneumonia is considered as a definite clinical entity; it usually runs a typical course, terminates by crisis, and has a high incidence of complications.

3. Type I pneumonia is the most prevalent of all the types, constituting approximately one-third of all adult lobar pneumonia treated in Bellevue Hospital. It is quite rare in infants under three years of age, but is particularly prevalent in young adults.

4. The mortality rate in 412 patients receiving no serum is 28.2 per cent. For reasons not entirely evident the death rate for Type I pneumonia in Bellevue Hospital has shown a steady increase since 1921-1929, when it was 42.8 per cent. The death rate for septic Type I cases without serum is 66.7 per cent.

5. The evidence in support of the therapeutic value of Type I serum is presented from an experimental and clinical standpoint.

6. In a series of 171 cases treated with Huntoon's antibody solution, as compared with an equal number of control cases, the efficacy of the solution is shown by a marked reduction in mortality rate.

7. Felton's concentrated antipneumococcus serum is described and evidence is presented to show that it is often more than ten times as po-

tent as unconcentrated preparations. A series of 239 cases of Type I pneumonia treated with Felton's serum shows a death rate of 20 per cent, as compared with a mortality rate of 31 per cent in a control series of 234 untreated cases. There is a further reduction in death rate to 11.7 per cent in cases treated within seventy-two hours after onset.

8. Type I serum is no longer in the experimental stage. When administered early and in adequate dosage, the clinical results are striking. The present study demonstrates that concentrated serum posseses all the therapeutic value of the unconcentrated preparation. Furthermore, concentrated serum has a much higher potency and a lower content of chill-producing substances and horse serum proteins which make it more easily administered, and less frequently followed by chills, serum reactions and serum sickness.

In Cole's (Rockefeller Institute) opinion, "Not much is to be expected from improvement of non-specific methods of therapy in cutting down the mortality from pneumonia. There are certain methods of treatment, however, that offer possibilities for future development, namely, chemotherapy and serum treatment. The principle is established that an organic chemical compound of relatively slight toxicity may have a definite bactericidal effect on pneumococci in the presence of serum and it is unquestioned that optochin, or ethylhydrocuprein, has such effect and probably curative value for animals, but no practical application for man has been developed. Type I serum was of value in large and early dosage, but Type 2 serum no definite favorable results were obtained." (Canada M. A. J. 30 237; March, 1934.)

Prophylactic measures as in any contagious disease should be instituted—general hygienic measures, isolation of the patient, gowns and masks for doctors and nurses, boiling of dishes and other articles coming from the patient and sterilization of all upper respiratory secretions. This is not generally followed, but in the larger clinics individual rooms are used and this method followed.

Common colds should be treated sanely and all infections of the upper respiratory tract should be carefully managed. During and after other infections, as measles and whooping cough, extreme care should be instituted. Over 50 per cent of the cases of pneumonia at Bellevue Hospital have given a definite cold history. People are coming more educated concerning the seriousness of pneumonia and simple advice may prevent cases when heroic treatment will fail to cure.

Oscar Betheu states, "We have made progress in all diseases except pneumonia and that there is no doubt something wrong with our treatment." He admits the value of Type I serum when used early but realizes its failure on account of impossible delay. He also suggests the treatment of a big percentage of cases is prohibitive on account of expense.

During the years 1918 and 1919, 690 cases of influenza were recorded at Camp De Souge under my care. Seventy cases of pneumonia developed and were sent to the base hospital, and of these there were thirteen deaths. At that time, no serum was available and we were confronted with a disease that no one seemed to know anything about and the mortality everywhere was most distressing. The routine treatment was carried on by male attendants, no nurses being available. Hospitals were filled but barracks were plentiful. Double and double-decker beds were used, the patients reversed above and below. As they improved they occupied the upper deck. Ladders were available. Buckets were used at the bedside and food cans were used as sputum cups; chloride of lime was liberally used. Fluids of all kinds and alkalies were given. Cases were examined twice daily and no patient allowed away from his bunk until discharged. Sponging was liberally used. The drugs available were aspirin, sodium salicylate, Dover's powder, quinine, and sedatives. *I believe the strict discipline and absolute rest, along with other supportive measures, saved many from developing pneumonia.*

I am convinced that good care at home is as good as good hospital care. The hospital has the equipment and it is more convenient for the doctor, but the patient will do better not being moved and being well-nursed in his own comfortable bed. *Mental as well as absolute physical rest is important.* Most people realize the seriousness of pneumonia and particularly early in the disease are rational and alert. Assurance that everything will be all right and that everything possible will be done bolsters his confidence. Take

absolute charge from the beginning and remember to treat the patient primarily and not the family. Good ventilation in the sick room is most important, not hampered by heavy covering. Hot water bottle to the feet, rubber sheet or paper under the mattress to prevent the cold air from penetrating from below, and good light should be arranged. No visitors should be allowed except possibly at intervals in exceptional cases and then only one at a time. Pneumonia jackets are unnecessary. Keep the mouth clean and moist and encourage fluids and nourishment frequently. A well-informed and conscientious nurse is the best asset in the management. As pneumonia is a more or less self-limited disease and frequently ends satisfactorily under most unfavorable conditions, the food intake is not as important as in wasting diseases. However, water or liquids 3 to 5 liters daily should be taken in small amounts frequently. Lemonade, orange, and other fruit juices, with soft foods, may be given but not crowded to a point of nausea or vomiting. Mild laxatives, water freely, enemas, stupes, rectal tube, stomach tube with the help of strychnin and pituitrin will regulate the bowels and control meteorism.

An alkali should always be given. I usually use the citrates in 20 to 30 grain doses or liquor ammonia acetate ounces one-half every three hours. Bleeding in the robust early, or late in right dilatation, may be advisable, the amount depending on the effect.

Pain may be controlled by codein, morphin, heroin, or locally by plasters, ice, strapping, poultices, or packs. Rest may be obtained by bromides orally or rectally, chloral hydrate, and barbital. The toxemia which is usually profound may be combated by glucose rectally or intravenously.

Care should be taken to avoid too great a load on the heart. Hydrotherapy by sponging, compresses, and irrigations are of great service in combating toxemia and circulatory failure. Some clinicians advocate strychnin grain 1/20 to 1/10 every two or three hours for the circulation and atropin grain 1/150 to 1/100 every three or four hours in cases of pulmonary edema. I have not been converted to this procedure. Digitalis has its advocates and others claim it to be of no value in their service.

At Bellevue Hospital the tendency is to refrain from using digitalis unless the pneumonia is associated with some organic cardiac disorder. Its use is questioned even in fibrillation or flutter because the digitalis had no effect on the toxemia and anoxemia. It has been my practice to use digitalis carefully and use it earlq. Strophanthin in grave cases intravenously grain 1/100 every twelve to twenty-four hours certainly has its value. I have used camphor in oil grains 3 every four to six hours. I doubt its value. Caffeine sodium benzoate grains 5 to 7½ every two or three hours is, I think, of definite value. Adrenalin either alone or in saline solution is used quite generally. Where the circulation has slowed and the blood pressure is low with rapid thready pulse, profuse perspiration and symptoms of shock showing evidence of vasomotor paralysis and respiratory failure, epinephin .5 to 1 c.c. every twenty minutes for six doses is recommended; I have used it in this manner with very satisfactory results. I frequently add 2 to 5 c.c. to a few hundred c.c. of saline solution, and give it subcutaneously or slowly intravenously. Alcohol is recommended for the alcoholics. I believe it of value in many cases alcoholic or otherwise.

Quinine seems to be of the old school but is of great value in many cases. I cannot tell just what cases to treat with quinine, but I do use it frequently and have felt well satisfied with the results. I have seen no bad results from its use.

Optochin grains 2 to 5 up to 20 to 25 grains daily has been used and suggested as a specific in many cases. I have not been convinced.

C. R. Huckabay has used quinine therapy for the past eight years and has given nearly 3000 intravenous injections. He gives three injections according to age and size of 10 to 25 grains and on the third day gives 31 grains of sodium iodide and 15½ sodium salicylate with 1/100 colchicine. He reports few empyemas since using iodides in the past eight years.

In an abstract on calcium therapy in pneu-

monia in the J. A. M. A., April 14, 1934. Zapel mentions the stimulating effect of calcium on the sympathetic nervous system, anti-inflammatory action, favorable effect on coagulation, the digitalis-like action on the heart, and favorable effect on the incretory system.

Expectorants as ammonium chloride, ipecac, etc., are of doubtful value except perhaps in some cases of bronchopneumonia. They tend to upset the gastro-intestinal tract and produce nausea and vomiting.

The nervous symptoms may be controlled by cool sponging and ice bags locally and the usual sedatives internally. At the crisis, care in collapse is the treatment. Treat complications as they arise.

The serum treatment in Type I is accepted. The object of serum therapy is to produce immunity as soon as possible. As pneumonias vary so much in their course, even late serum therapy may prevent some extension in the lung in any stage. Immunity depends on certain substances, agglutinins, precipitins, opsonins, or "protective bodies." The serum is anti-bacterial and not antitoxic. No toxin anti-toxin is present. Dochez states there is an accumulation of these protective bodies at a crisis or lysis. Therefore, any treatment which adds to, produces, or supports the patient until body reaction can produce them, justifies recognition. G. M. Bullowa of New York reports a decreased mortality in pneumococcic pneumonia Type 3 with serum therapy. However, no specific sera have proved satisfactory in the Type 4 group.

Diathermy has been used for many years in the treatment of pneumonias of all kinds, but as diathermy has advanced in other fields, it has not been generally accepted by the profession in pneumonia. R. H. Harbin has written an interesting article on diathermy in the abortive treatment of pneumonia. I have seen this treatment in use but I cannot comment on its importance.

Considerable work has been done on carbon dioxide therapy in lobar pneumonia. Reginal Hilton in the British Medical Journal (March 10, 1934) gives the results of a careful study during the first five days of pneumonia. The practical conclusion was that in the absence of respiratory failure, as evinced by shallow breathing, the clinical benefits of CO_2 administered in air are not sufficiently demonstrated by these observations to warrant its routine use in lobar pneumonia. The work of Drinker, Shaughnessy, Christie, Hanson, Calhoun, and others in CO_2 and O_2 in pneumonia has been of interest and of value.

A treatment to be mentioned is that of potassium permanganate and thyroid. I have never seen this treatment used, neither have I heard any favorable or unfavorable comments. (H. W. Nott, 1931, London.)

Pneumothorax is at present of considerable interest in the treatment of unilateral lobar pneumonia. If the theory of Coryllos and Birnbaum is correct in regards to a central bronchus plug, atelectasis and subsequent pneumococcic cellulitis, it may be adopted generally as rapidly as safe technic can be established. Moorman states this theory may be questioned but we must admit it promises a solution for some of the enigmatic features of this disease which have puzzled our most skilled clinicians and, though we wholly disregard the theory, we still have many reasons for the employment of artificial pneumothorax in the treatment of pneumonia. "Since the history of rest in the treatment of pulmonary tuberculosis paralleled that of pneumonia, until Farlinini conceived the idea of local rest through artificial pneumothorax, it was thought that local rest might accomplish similar results in pneumonia. The hope of controlling the harassing cough constituted an additional appeal." Behrend, Albert, and Cowper reported eleven patients from 15 to 54 years of age treated, with two deaths. One patient had an overwhelming septicemia and toxemia and the second a pneumococcic meningitis. The outstanding results were relief of dyspnea and pain, the decrease in cough and cyanosis, the fall in temperature and diminished toxicity within twenty-four hours.

Oxygen therapy has occupied a very important position in the treatment of pneumonia for many years. Much early enthusiasm in its use has been lost. However, when one sees a patient in an anxious, restless state,

dyspneic and cyanotic, administered oxygen, following which an almost reverse picture is presented, its virtue cannot be denied. The methods used are nasal catheter, tents, and chambers. Chambers would be ideal but are not available except in the newer hospitals. Therefore, the tent or nasal catheter must be used. We should use the one tolerated best. Many type of tents were made. They were complicated and expensive. At first it was thought that soda lime was necessary to absorb the CO_2. This was disproved and it was found that in an ordinary closed tent where 8 to 10 liters of oxygen per minute was used over a period of one-half to seven and one-half hours, the per cent of oxygen ran 37 to 40 per cent and the carbon dioxide .4 to 1 per cent. Woodford advocates the use of oxygen as soon as there are definite symptoms of anoxemia, and oxygen, therefore, should be used in 10 to 15 per cent of cases. He believes that Barach's or a similar tent method is efficient with a 40 per cent concentration of oxygen is used. Five per cent carbon dioxide-oxygen is also advocated. The latter inhalations were administered by Morrison with dramatic effect in one of his patients whose condition appeared to be hopeless. Maxwell, in discussing the various therapies in use, finds the oxygen tent is the best method but is not adapted for the home. The prognosis is considered grave when the pulse is not slowed, and the cyanosis improved with oxygen therapy. Regardless of cyanosis, Evans recommends starting oxygen therapy as early as possible. When given in sufficient concentration to abolish anoxemia, he finds it helpful in preventing abdominal distention. The chamber, he believes, is the best for the delirious patient who objects to the mask or tent method. The latter method is the one of choice for infants and young children, but in children above five years and for adults, he prefers the nasal method as his second choice. He considers a great handicap the limitation placed upon oxygen percentages, because of the inability of 40 to 60 per cent oxygen to restore normal blood oxygen in a large percentage of cases. Wittmer agrees with Henderson, Coryllos, Birnbaum and others in believing that carbon dioxide and oxygen inhalation not only relieves cardiac strain by hyper-ventilating the remaining normal alveoli and overcoming atelectasis, but that this inhalation also stimulates peristaltic contractions of the small blood vessels with resulting increased circulation in the consolidated area.

He suggests continuous inhalation rather than spasmodic or symptomatic administration until resolution sets in, and then for periods of half an hour at hourly intervals until resolution is completed. He prefers the tent method to the facepiece or mask. The mixture used by him is 7 per cent carbon dioxide and 93 per cent oxygen which, he says, provides the patient in most tents with 5 per cent carbon dioxide and 45 per cent oxygen. This proportion is varied in accordance with the patient's condition. Tanks of 10 per cent and 20 per cent carbogen are kept available for emergencies. The temperature in the tent can be kept from 4 to 10 degrees lower than the outside atmosphere by an injector at the top of the tent, drawing and circulating it through a container which holds either ice water or a container of dry ice. Wet ice, it was observed, will keep the temperature 2 to 4 degrees lower than the outside atmosphere, and dry ice will keep it 8 or 10 degrees lower. The relative humidity is maintained below 50 by the exposure of the air to the ice water or dry ice in the container. What constitutes the most desirable humidity is not altogether certain, and it is not decided that either extreme is the most desirable. The Haldane gas-oxygen apparatus, supplying 2 liters per minute, will diminish the anoxemia, which form of administration, Howard finds, will be enhanced by the use of the oxygen tent.

I believe in oxygen therapy in pneumonia when indicated. However, I feel that experienced help is necessary to administer it properly. Careless oxygen therapy is dangerous. Continuous oxygen therapy is quite necessary in many cases. All cases of pneumonia do not require oxygen. Respiratory and circulatory failure, anoxemia and restlessness are the usual indications.



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HARMONY AND CO-OPERATION IN THE HOSPITAL*

ALLEN H. ERB
LA JUNTA

A hospital and especially one connected with a school of nursing is one of our most complex institutions. It is a business organization, a philanthropic society, a medical institution, and an educational body. It involves problems related to finance, philanthropy, science and education. This program requires the employment of physicians and nurses of scientific training, men and women of business ability, orderlies, engineers, housekeepers, cooks, waitresses, and various servants of sundry duties. This group contacts another group, the entire public in the community through the patients. They come from all classes and represent all the people of the territory. How to secure harmony and co-operation in this mixed group is the subject of my paper.

I would suggest that the first step in this difficult problem is to secure a hospital ideal. This ideal must be so prominent as to develop a hospital consciousness. This consciousness may be called the soul of the hospital. To illustrate what I mean I would recall to your minds the late stratosphere flight of a few months past. The National Geographic Society and the U. S. Army Air Corps attempted to conquer gravity by the use of a balloon and to sail into heretofore undiscovered realms of the stratosphere. Fifteen or sixteen miles above the surface of the earth was the bold goal of this scientific adventure. Preparation for the event was all centered about the achievement of this goal. Physical equipment, geographic location, time, equipment for scientific observation, selection of personnel and cargo, all were determined by the contribution they would make to this one objective. Thus to ascend into the stratosphere became the soul around which this entire adventure moved. Unconsciously in moving toward the unmistakable goal of the venture every activity was co-ordinated and harmonized. It seems to me in somewhat the same way every hospital ought to have its own distinctive ideal around which every activity centers. As every worker in the hospital becomes hospital conscious there develops what might be called hospital patriotism. Each employee says with some degree of satisfaction, "This is our hospital." With somewhat the same spirit of the patriot he paraphrases a well-known poem, "Breathes there a man with soul so dead, who ne'er within himself hath said—This is my own, my native hospital." Without this spirit all efforts toward harmony and co-operation will be strained and labored and to a certain degree fruitless.

So to me the first responsibility for co-operation rests upon the hospital administration. It is the responsibility of the hospital board and its appointees to define the hospital goal and thus create the hospital soul. In a general way this will be the same for all hospitals but in a particular sense each hospital should have its own peculiar objective. A psychopathic hospital and an orthopedic hospital have the same general purpose of healing the sick but each also has a peculiar purpose not common to the other—one to heal the mentally ill and the other the deformed. · Every hospital should carefully restate its general aims and then more particularly its own peculiar and distinctive objectives. This is not an easy task, but it must be done. No real progress can be

*From the Mennonite Hospital and Sanitarium, La Junta. Presented before the Colorado Hospital Association, October 26, 1934.

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*Amer. Jour. Med. Sciences, 1933, *186*, 362.



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made in unifying the efforts of the personnel until they all rally around a well-defined standard. No labor should be spared in lifting up the hospital standard. This having been done our problem is well on the way toward solution. But the completion of its solution is dependent upon how well every employee from the medical staff to the least servant and every patient and patron which the hospital serves rally around this standard. I believe the order of approach must be as suggested above—first the personnel of the hospital and then the public whom the hospital serves.

There are some common principles to which we may adhere that will contribute much to our program of unity. They will produce a spirit of good will one toward another. I will set forth a few of them here: The law of kindness inspires a ready response in all. The words of Solomon, "A soft answer turneth away wrath but grievous words stir up anger," have been demonstrated in all human experience. Nowhere is this more true than in hospital life. I remember reading in one of our current medical journals the recommendation of a physician on "How to Hold Children as Patients." Among other suggestions he stated that a child should never be forced. So in dealing with the child patient he recommended taking much time in showing kindnesses to the child and the parents. By this means the voluntary support of the child and parent may be secured. If kindness is necessary where the patient is held by voluntary choice, dare we be less diligent in relationships which are more or less involuntary? Is there not a tendency through the whip of the fear of dismissal for superiors in a hospital to lord it over their subordinates? Kind words and deeds will inspire loyalty and good will in the hospital.

A love for work must be cultivated. Each employee should be selected according to his adaptability for his task. His work should give him satisfaction. He should be inspired in it. The housekeeper should feel that a clean floor makes an attractive home for the sick, the fireman should be happy in that his coal shoveling is making the building comfortable for others, the cook that she is providing the nourishment needed for patients, and so through all the list of employees. An intelligent understanding of how the work of each is filling a place in the great hospital program will help much to give all a delight in their work.

Knowledge is a stepping stone to understanding. Thorough understanding of each duty and purpose he has to perform by every employee will help him to evaluate that duty in relation to every other duty in the hospital. This knowledge may be obtained by staff conferences, group meetings, special training, and experience. In the smaller hospitals a periodical meeting of all employees of every group will be found helpful. The purpose of this meeting should be to obtain fellowship, inspiration, and information. Quoting from the June issue of the Modern Hospital, "The leaders of modern nursing are inclined to frown upon class distinction. Time was when probationers enjoyed no social relationships with juniors, juniors were ignored by seniors, and graduates did not condescend to dine with undergraduates. The psychology underlying such subjection of the lower classes of nurses to personal or professional humiliation is far from healthful. The directress of nurses who insists, except to recognize in broad terms proper administrative methods, that lines of class distinction be closely drawn is permitting unfairness in the conduct of her school."

Social contacts are a great help in producing unity. I think it was a man by the name of Lambe who at one time said to a friend, "I hate that man." His friend replied, "But you do not know him." Lambe replied, "I do not want to know him for then I would not hate him." By social contacts we establish friendships which bind us together. The question might be asked, "Should social contacts be made outside the hospital with employees? Where the size of the group will permit this without showing partiality I think it very helpful. But due caution must be exercised in this. Again quoting from the Modern Hospital, "Social contacts within the hospital should be with the group and not with the individual. They should not include specific social invitations from board members or others to any one

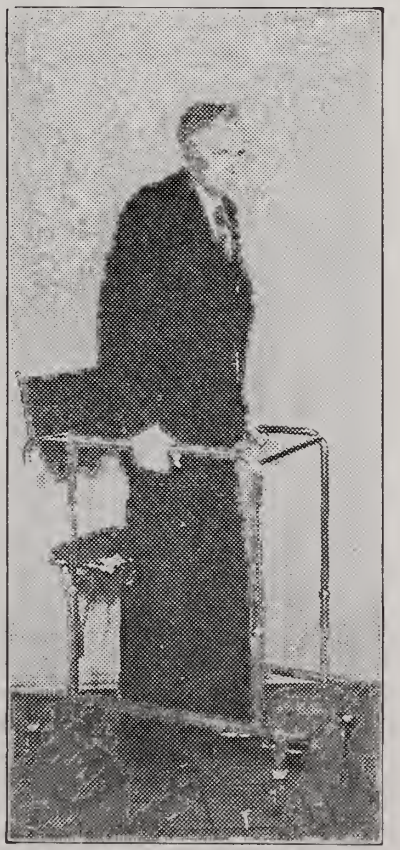


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member of the institution's personnel. This general rule is particularly applicable to the school for nurses and the directress certainly errs who singles out any pupil or graduate nurse for the bestowal of special favors. The psychology of discipline in the school for nurses varies in no great degree from that in other hospital departments." These are just a few suggestions for the hospital in securing harmony.

How may the hospital secure the harmony and co-operation of the public. This subject was given prominence at the American Hospital Association meeting in Philadelphia by a report of Dr. Malcolm T. MacEachern, Chairman of the Committee on Public Education. The subject of this report was "Acquainting the Public With Its Hospitals." Also a paper by Dr. Channing Frothingham on "What Are Small Hospitals Doing to Improve their Community Relations?" Dr. MacEachern asked if the proper mental attitude toward a public relations program would not be better expressed by "Acquainting the Hospitals with Their Public" rather than "Acquainting the Public With Their Hospitals." This again puts the burden of responsibility upon the hospital. The beginning of the solution of this problem is for the hospital to get acquainted with the public.

This may not be as hard a problem as it seems. There might be proposed numerous and complex and studious methods. I would not minimize their importance. We have all received many of them and some have tried to put them in force. But I have in mind a very simple and practical method. Dr. MacEachern calls attention to the statistical fact that one out of every ten people each year contacts the hospital as a patient. If this is remembered we already have an immediate and definite contact with one-tenth of the public. Besides the patient the friends of the patient come to visit and another person is added with whom a contact is made. Right here is the hospital's greatest asset in establishing right public relations.

Our first emphasis should not be to acquaint the patient with the hospital but for the hospital to acquaint itself with the patient. There is too great a tendency to de-

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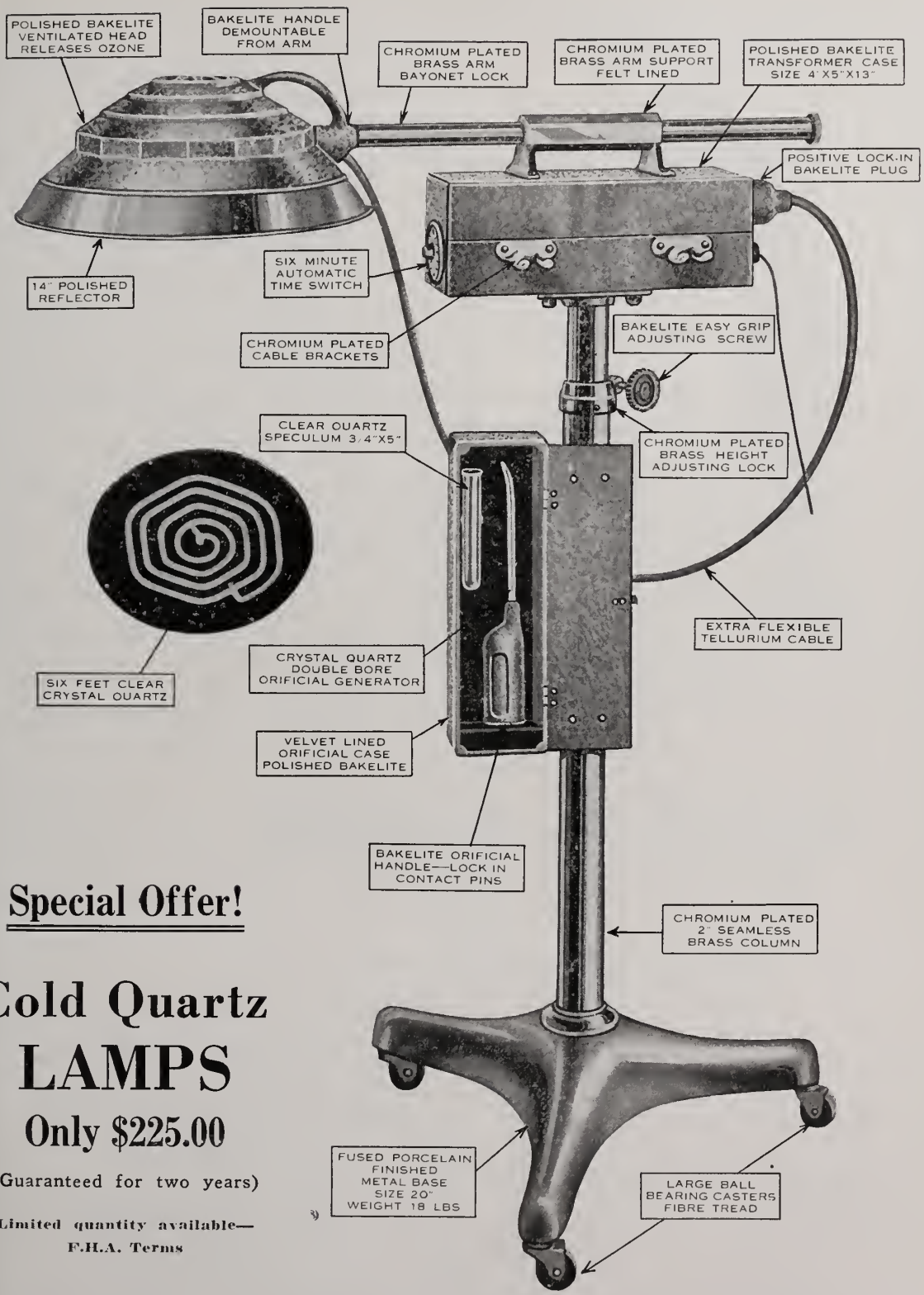
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stroy the personality of the patient in our complex hospital program. He is a patient rather than John Brown who labored for many years in a downtown mill and who has a family of four living on Thirteenth Street dependent upon him and who now is fighting to overcome illness that he might be restored to the position of father in that home. And as the family visits him their peculiar situation is learned. How this acquaintance with the patient as an individual reveals to the hospital the strategic position it occupies as a servant to this home! The hospital as an aid in maintaining a human life has contributed happiness and contentment and joy to this family. The hospital sees itself as a public servant dispensing health to its patrons. This stimulates the hospital to its best endeavors. It rallies every one and co-ordinates every energy in this task. The medical and other professional groups and all employees are made to contribute their best toward this obligation. The physical equipment is brought up to a standard sufficient to meet that need.

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I think we underestimate the place of the patient in our relation with the public. If one out of every ten comes to the hospital every year, one-tenth of the public has been placed in direct relation to the hospital. For weal or woe they are an influence to be counted on. The doctors, the nurses, the receiving clerks, the dietitian and her helpers —all have made an impression for or against harmony and co-operation.

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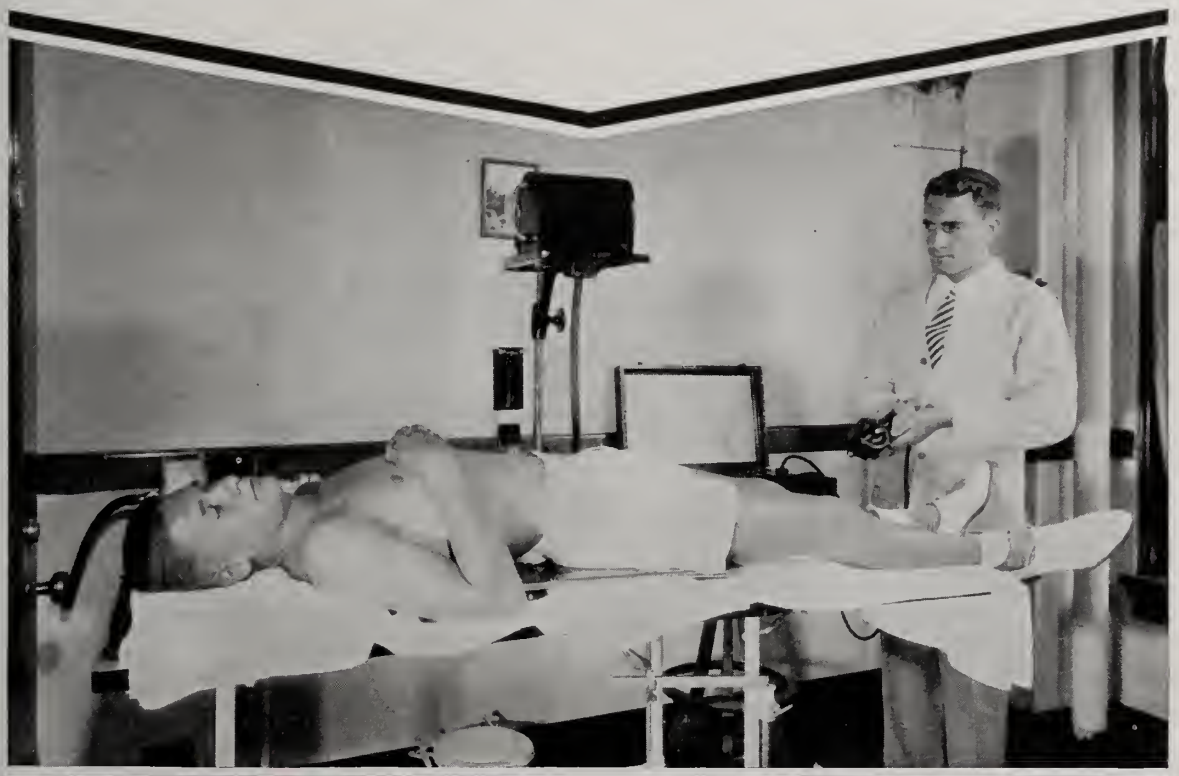
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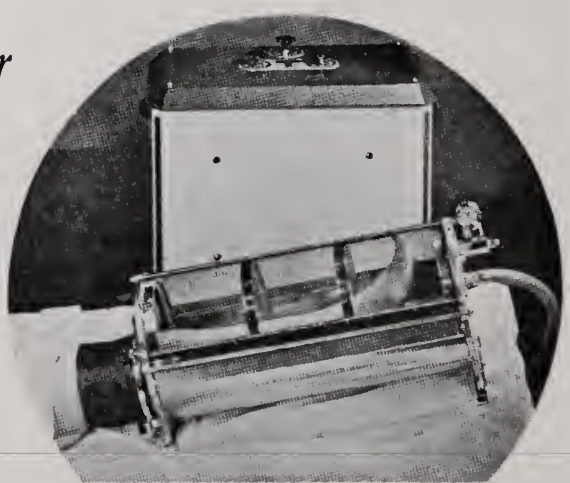
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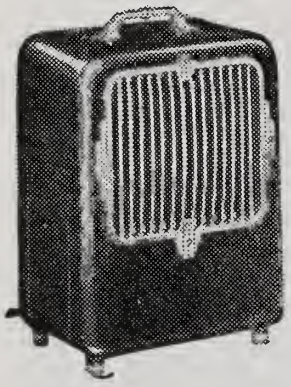
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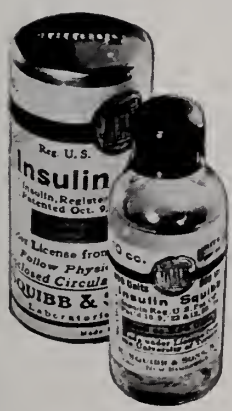
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CANNED FOODS AND THE PUBLIC HEALTH

IV. BOTULISM

• Several of our readers have inquired as to the possibility of botulism resulting from the consumption of commercially canned foods. The canning industry is proud of the part it has played in the eradication from its products of this deadly type of food intoxication. We are glad to devote this space to a discussion of this important topic.

During recent years, the daily press periodically carries reports relating how one or more members of a family, or of a group of persons, were stricken after a meal, usually with fatal results. Sometimes these accounts describe how an "anti-toxin" was rushed to the scene—an indication that botulism was involved. These press reports often include the statement that a "canned food" was incriminated as the cause of the illness.

We wish to emphasize that as far as the records go, these outbreaks without exception are not attributed to foods commercially canned in this country. In practically every instance, it was found that the foods —usually of a non-acid or semi-acid nature —had been preserved at home by the use of inadequate heat sterilization processes (1). These press reports, by not stating correctly the type of food involved, have done much to cast unwarranted suspicion on commercially canned foods as possible causes of botulism.

Botulism, or acute toxemia due to clostridium botulinum, is by no means a new affliction. As early as 1802—ninety-five years before van Ermengem discovered the true cause of the intoxication—warnings were issued against botulism. However, not until severe outbreaks occurred in this country some fifteen years ago, was it realized that cognizance should be taken of the fact that foods canned by the methods used in those days could become contaminated with the toxin of this organism. This fact having been realized, the canning industry took immediate steps to prevent such contamination of their products.

Research was inaugurated and has been continued to which the industry has contributed not only financially, but also by the studies of scientists associated directly with the canning industry (2). The end result of these researches was the development of scientific methods of determination of heat sterilization treatments, or heat processes as they are known to the industry, which would be adequate to insure the safety of canned foods from the standpoint of botulism (3).

The effectiveness of the measures generally adopted by the canning industry of the United States is evidenced by the fact that no case of botulism attributable to an American commercially canned food has occurred during the past ten years (1a). Foods packed in commercial canneries are heat processed not only to insure protection from bacterial spoilage causing merely the loss of the food, but to render them safe from the standpoint of botulism, as well. In fact, a sterilizing process sufficient to insure the destruction of the most heat resistant strain of Cl. botulinum ever isolated is considered the minimum requirement of heat treatment of commercially canned foods. The National Canners Association has issued lists of scientifically determined processes for non-acid canned foods with which canners comply (4).

Such are the facts. The American canning industry offers its products to the consuming public for what they are; namely, wholesome and nutritious foods.

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1. a) *1935* Amer. J. Public Health, 25, 301
b) *1935* J. Amer. Diet. Assn. 11, 18

2. *1936* J. Bacteriology 31, No. 1 P. 71
1929 Amer. J. Public Health, 13, 108
1922 J. Inf. Dis. 31, 650

3. *1929* Natl. Res. Council Bulletin, 7, No. 37

4. *1931* N.C. A. Bulletin 26-L, Revised

This is the twelfth in a series of monthly articles, which will summarize, for your convenience, the conclusions about canned foods which authorities in nutritional research have reached. We want to make this series valuable to you, and so we ask your help. Will you tell us on a post card addressed to the American Can Company, New York, N. Y., what phases of canned foods knowledge are of greatest interest to you? Your suggestions will determine the subject matter of future articles.

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Boiled Water	20 ounces
Karo	2 tablespoons
Lactic Acid Milk	**12 ounces**
Boiled Water	8 ounces
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REFERENCES:

Kugelmass, Clinical Nutrition in Infancy and Childhood, Lippincott.
Marriott, Infant Nutrition, Mosby.
McLean & Fales, Scientific Feeding in Infancy, Lea & Febiger.

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PRINCIPAL OFFICES AND LABORATORIES, INDIANAPOLIS, INDIANA, U. S. A.

Colorado Medicine MAY 1936

Editorial

See You in Kansas City!

THE greatest convention of the American Medical Association at last is "close to home." We can't afford to miss it. Reservations already made indicate attendance will equal or exceed any previous session.

At least three special cars—and very probably a special train—will carry a joyous band of Colorado representatives to Kansas City.

See the Medical Organization section of this issue for more detailed announcements about those important days—May 11 to 15.

Triological Society to Meet in Colorado

WITH the coming to Denver, May 18-20, 1936, of the American Laryngological, Rhinological, and Otological Society (commonly known as the Triological Society), an honor is bestowed on one of the members of the Colorado State Medical Society, Doctor T. E. Carmody, who was made President at Toronto in 1935.

Doctor Carmody has always interested himself in both the practical and theoretical advancement of science—a man who not only does research studies himself, but who also encourages and fosters like studies by others. It is gratifying to his colleagues that the Triological Society has recognized his ability by conferring upon him the Presidency of their organization. It is also gratifying that through Dr. Carmody, Colorado will have the advantage of such authorities in their fields as Dr. Thomas J. Harris of New York, the guest of honor; Dr. Joseph C. Beck, Chicago; Dr. Louis H. Clerf, Philadelphia; Dr. L. W. Dean, St. Louis; Dr. J. G. Dwyer, New York; Dr. Frederick Figi, Rochester, Minnesota; Dr. David Higbee, San Diego; Dr. Samuel Iglauer, Cincinnati; Dr. Chevalier Jackson, Philadelphia; Dr. Eugene R. Lewis, Los Angeles; Dr. Dunbar Roy, Atlanta; Dr. Edward C. Sewell, San Francisco; Dr. John J. Shea, Memphis; Dr. W. P. Wherry, Omaha; Dr. Arthur W. Proetz, St. Louis; Dr. Ralph Fenton, Portland, Oregon; and Dr. George M. Coates, Philadelphia.

As these meetings are open to all physicians, it is an opportunity which should be welcomed by the Medical Profession of Colorado, and every effort should be made to make this convention a success and again reveal Colorado's hospitality and medical progress.

J. S. B.

American Red Cross Highway First Aid

REPRESENTATIVES of the Colorado State Medical Society met with Mr. A. T. McCue, Field Representative of the American Red Cross, in Denver on April 3. The purpose of the conference was to discuss the installation of first aid stations upon main highways throughout the United States. This is a project of the Red Cross and is already well started in the East. It is to be extended in this territory as rapidly as possible. About 1,200 stations are now in operation throughout the country; it is hoped there will be 4,000 by June.

The program takes advantage of existing facilities such as state and suburban police stations, country stores, garages, tourist camps and filling stations. To qualify for the service, each station must have a telephone and two or more employees, two of whom must have passed a standard course in first aid. Before a local chapter of the American Red Cross can open such a station, a list of Doctors of Medicine approved by the County Medical Society and similarly approved ambulance and hospital service is

made available to that station. Thus the station is for *first aid only* and, after such is administered, that station refers the case into the proper channels for all further necessary care. The Red Cross appoints, if possible, a member of the County Medical Society as a member of the committee of the local chapter which has supervision of the station or stations within its province.

The distance between stations varies between three and fifty miles along main highways. Each is equipped with stretchers, blankets, splints and other essential supplies which are replaced as required by the local Red Cross chapter. Effort is made, of course, to procure the return of any valuable equipment which leaves with the patient. Stations are conspicuously labeled. The average cost of preparing a station for operation is $25.00. The biggest problems so far have consisted in getting the Red Cross instructor and the worker together for necessary instruction and in being assured of the latter's dependability.

The worker is a volunteer; he receives no pay. No charge is made to the afflicted persons for the first aid service, but any subsequent dealing with a private physician or hospital is a private transaction. Local Red Cross chapter representatives supervise their stations, procure regular reports therefrom, and make alterations or replacements.

Presidents and secretaries of county societies in Colorado and Wyoming will soon be in receipt of pertinent literature from the Red Cross and steps will be taken to procure the cooperation mentioned above.

To refresh our minds as to the gross setup of the American Red Cross, the national headquarters are in our national capital and the country is divided into several major divisions. The chapters subsidiary to these divisions are located in the various county seats. During the Annual Roll-call, donations are solicited by the chapters. In Denver this is a part of the Community Chest activity, hence there is no direct solicitation. Of each individual Red Cross membership donation, fifty cents goes to the national organization and the remainder goes to the local chapter. We need not be reminded of the stupendous efforts of the Red Cross in times of disaster and emergency as well as its continuous good work at all times.

The Pneumococcus as an Etiologic Factor in Asthma

DURING the several months just passed there has been a general high incidence of respiratory infections. Many asthmatics have suffered more than usual and numerous individuals of all ages have shown asthmatic manisfestations, in some instances apparently primary and in others secondary to influenza or pneumonia. Expiratory dyspnea, orthopnea, and profuse expectoration may persist long after the febrile period has passed. We should give serious attention to these patients, knowing how persistent or perennial asthma jeopardizes health.

At present and during the coming few months there may be unusual opportunity to appraise further the therapeutic value of ethylhydrocupreine. Dr. W. C. Service of Colorado Springs described the technic of its use in his article in the January issue of this journal. The drug, a quinine derivative otherwise known as optochin base, has been advocated in the treatment of pneumonia. Its use was first suggested in 1916 by Mendel because its absorption rate, and hence any consequent toxic effects, seemed more controllable than that of other quinine preparations.

The article which appeared in this journal cites a group of asthmatic cases selected for therapy with this drug. All of the cases had failed to respond satisfactorily to other forms of treatment, including tests for offending allergens and their elimination when indicated by positive reactions. Bacterial tests were also made and autogenous vaccines administered. This also proved practically useless. The pneumococcus has been shown to be a consistent inhabitant of the bronchial tree, particularly in cases of chronic asthma—postpneumonic and otherwise. In view of the known pneumococcicidal properties of quinine and its derivatives, a group of suitable cases was selected for administration of ethylhydrocupreine. Four grain doses were given with eight ounces of milk at 8 and 10 a. m. on an empty

stomach for three successive mornings. The same was repeated after a two-day rest period and subsequent dosage individualized according to the respective requirements. All due precautions against reactions in hypersensitive individuals were of course observed. Eleven of sixteen patients showed favorable results; none had responded previously to any other form of therapy.

In considering the question of asthma therapy, we recall a brief article in Southwestern Medicine about a year ago. The author had administered whooping cough vaccine as a prophylactic measure to a number of children. Among them was a boy of eight years who had suffered frequent attacks of asthma since infancy. During the six weeks' administration of pertussis vaccine he was said to be entirely free from symptoms. Continued weekly doses of one c.c. kept him symptom-free indefinitely. Comparable results were mentioned in several other patients of all ages—the asthmatic manifestations returning in each case ten days or longer after cessation of the vaccine. It was not stated whether mixed or plain vaccine was used. In view of recent encouragement in asthma therapy by the use of a drug known to exert a specific action against the pneumococcus, we wonder whether the apparent benefit from this vaccine was due to a pneumococcic element in a mixed preparation.

Such observations, though based upon small series of cases, are interesting. Since recent years have wrought important advancement in the prevention of pertussis and in the therapy of pneumonia, particularly Types I and II, there should be increasing opportunity to appraise any possible importance of the respective organisms of these diseases in the etiology of asthma.

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Noted British Physician Speaks for Peace

A COMMITTEE of Denver citizens arranged a program, April 24 to 28, as part of a national peace movement known as the Emergency Peace Campaign. The principal speaker at several meetings was Dr. Alfred Salter, noted English physician. We are proud that a distinguished member of our profession is giving his time and personal fortune toward the cause of international peace. Dr. Salter is a student of world affairs and speaks authoritatively upon their present terrifying potentialities.

He said it is difficult for inhabitants of North America, particularly those of us in the inland mountain area, to comprehend the terror which is causing the people of the British Isles to be feverish about the production of 30,000,000 gas masks, and thousands of rubber containers for infants. However, being aware that modern conquest of space would probably render any major war world-wide, we cannot remain passive in the face of the prevailing crisis. It is suggested that we fight for peace as vigorously as we would strive for victory.

The forces toward conflict seem to be gaining momentum every day. The armaments race exceeds that which preceded 1914. If another great conflict occurs, it is said the British system of government and colonization will probably end. In fighting for peace, the people of Great Britain therefore feel that they are fighting for their lives and for their empire. Despite the movements toward war, a peace campaign here or abroad indicates hope that it is still preventable. Possibly it is—if enough people act promptly and intelligently.

England bears a similar relation to the European continent that America does to the world. Both are mighty nations and may control the ultimate fate of the world.

The United States vows we will stand aloof and let the nations shoot it out. Maybe! With other nations starving, with labor and machines idle for want of raw material, with tariff walls or "sanctions" keeping them out of the world's market—with the United States and Great Britain holding or controlling what they must have or die for want of it—will desperate millions of people die without disturbing the dog in the manger?

Until there is a moral and physical disarmament, an international understanding of people and their needs—together with application of the Golden Rule—there will be no assurance of peace.

SUBACROMIAL BURSITIS, SO-CALLED*

ROBERT M. LEE, M.D.
FORT COLLINS

In 1923 when I was a medical student on dispensary service, a man came in with a distressed look on his face. "Doc," he said, "I've got it in the shoulder. Hurts like —— when I raise my arm."

Being an average medical student, I tried to get a complete history. Then physical and laboratory examinations were made. I concluded that the case might be one of arthritis, but couldn't quite understand why most of his distress came when he abducted his arm.

The "Chief" was called in and after an inspection, which didn't begin to compare with my examination, pronounced the case one of subacromial bursitis. The patient was directed to take acetylsalicylic acid as directed and to apply hot towels to the shoulders. I consoled myself with the satisfaction that my treatment for arthritis would probably have been as good as the aspirin and hot towels, for he kept coming back complaining of his shoulder.

Later I started practice in a little country town and began along with everything else to see people complaining of pain in the shoulder. I ordered acetylsalicylic acid and hot towels. Later I advanced to diathermy and infra-red. Some of the patients would improve and others would quit coming back for treatment. I finally decided that "painful shoulder" was one of the things I dreaded to treat.

During these years much has been written on the subject, but many of the writings seem highly technical or indefinite, and there is considerable difference in the various conceptions. I had come to conclude that my reading had not accomplished much of material value.

The condition is commonly seen by the average practitioner and the diagnosis is either not quite clear, or it has been diagnosed subacromial or subdeltoid bursitis. The one constant and outstanding symptom is pain upon abduction of the arm.

During 1931 while doing graduate work in Philadelphia, I became acquainted with the late Dr. John B. Carnett, professor of Surgery, University of Pennsylvania. It was his hobby to study some of these minor things that were not generally clear to the profession. He began to x-ray these painful shoulders and in a surprising percentage of cases found radiopaque deposits in the vicinity of the supraspinatus tendon. He prevailed upon some of them to submit to exploratory operations and found these deposits in the supraspinatus or other short rotator tendons. When the deposits were removed, the pain was gone in most instances.

I began to check over my own records and found a surprising number of patients had come in for shoulder pain. I eliminated all cases with pains also in other joints, objective injuries as cuts, bruises, fractures, and pains obviously due to some other factors such as angina pectoris, acute general pain, and so on. The histories indicated that there were twice as many right shoulders affected as left shoulders. There were also more than three times as many in males as in females. About half of the records showed history of injury. Many of the injuries were quite trivial, as:

"Lifting metal plate in printing plant. Felt something 'give.' Complaint, inability to raise or turn arm."

"Cleaning up basement. That evening noticed pain in shoulder on raising arm. Has persisted nearly three weeks."

"Drying back with towel while taking bath. Sudden pain in shoulder."

"Hurt shoulder three weeks ago. Hurts to raise arm. Keeps awake at night." Phy-

*Presented before the Sixty-fifth Annual Session of the Colorado State Medical Society at Estes Park, Sept. 5, 1935. In the moving pictures accompanying this presentation, the operative exposure showed the deltoid being split, the roof of the subacromial or subdeltoid bursa opened, disclosing a normal bursa, through the translucent floor of which could be seen the deposit in the supraspinatus tendon. Abduction of the arm demonstrated how this deposit could be wedged between the humerus and acromial process. The deposit was removed. The patient obtained complete relief.

sical examination notes "pain upon actively raising arm. Only slight on passive motion."

In DaCosta's "Modern Surgery," 1921 edition, A. E. Codman is quoted from the Boston Medical and Surgical Journal, 1908. It is pointed out that the subacromial bursa and subdeltoid bursa are one and the same thing. He described three types of conditions which he considered due to inflammation of the bursa. Another observer, Dawbarn, noted in some cases that the point of tenderness disappeared under the acromion when the arm was abducted. A practical classification is as follows:

Type I: Acute or spasmodic type. He shows that in attempting abduction only about ten degrees of motion can be obtained without moving the scapula, after which time the scapula is locked by muscle spasm. The arm can be raised by passive motion. Dawbarn's sign is present.

Type II: Subacute or adherent type in which there are adhesions between the roof and floor of the bursa—a definite mechanical hindrance to abduction and external rotation.

Type III: Chronic, non-adherent. Motion retained but painful. If tender, Dawbarn's sign is present at some point during abduction. There is severe tenderness which disappears when the tuberosity passes beneath the acromion.

Codman advocated putting the arm up in a sort of airplane splint. Another observer, Monks, advocated sitting by a table, the arm being abducted and placed on a pillow that is on the table. This relaxes the short rotators and the deltoid, and keeps the base of the bursa from coming in contact with the acromion.

In the preceding statement it is not suggested what might be the cause of the inflammation of the bursa except to state that in septic cases the prognosis is far worse than in traumatic cases. Just how the infection gets there is not intimated, neither is it explained just why some should be due to injury and others due to infection, especially when he classes the three types as stages of the same basic condition.

In my own experience, about half of the patients linked the painful shoulder with an injury, though in each case the specific mechanism of the injury was rather obscure.

For the sake of speculation, let us assume that some of the other half may also have had injury originally and that due to some unusual motion, either reflex or voluntary, caused a sudden contraction of the short rotators, mainly the supraspinatus, and that the mechanically weak point would be near the insertion. The fibres of the tendon would be torn in varying degrees. There would be hemorrhage at the site of the sprain which would be delineated by the fibrous tendon or sheath.

Would such an injury cause pain upon abduction of the humerus? Could the arm be less painfully abducted by passive motion? Would it be likely that some of the clots, if large and if subjected to constant traumatism of shoulder motion undergo calcareous degeneration? Would these injuries heal quicker and with less pain if the arm was immobilized in abduction and external rotation as Codman suggests in the treatment of subacromial bursitis?

With these questions in mind let us consider the anatomy, physiology and pathology as might be applied here. The supraspinatus muscle originates along the superior surface of the spine of the scapula, passes beneath the acromial process and inserts into the greater tuberosity of the humerus. During abduction this point of insertion passes beneath the acromial process and finally mesial to the process as abduction continues.

If there was swelling or thickening in the region of this insertion, there would be definite impingement or wedging of the thickened or swollen area between the humerus and the acromial process of the scapula. Such wedging, here as anywhere else, would cause pain. There would even be trauma of the normal tissues in ordinary use of the arm if it were not for the fact that nature has placed a bursa, the subacromial bursa, between these parts to act as a cushion.

Some of the other short rotators may act in a similar manner, though the x-ray and operation show the supraspinatus to be more commonly affected.

E. T. Case reported tissues from twenty-six of these shoulders and found tendon inflammation, necrosis and calcification as the principal changes. He recalls the poor blood supply to this area. He finds cultures sterile, often dead tissue cells, giant cells and bits of tendon, often impregnated with the calcareous material. With traumatic rupture in mind, he noted that he found hemosiderin only twice, but thinks that "the time elapsing since the initial lesion may have been long enough to permit removal of blood pigment." This is about all the information the histopathology seems to give as regards etiology.

From a practical working standpoint regardless of whether there is agreement or confusion as to etiology, if these cases are treated by immobilization in abduction and external rotation plus heat and passive motion, with removal of deposits in chronic cases, most of these pains can either be satisfactorily relieved or cured.

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THE PAINFUL SHOULDER*

X-RAY INTERPRETATION

GEORGE A. UNFUG, M.D.
PUEBLO

The painful shoulder probably causes as many diagnostic and therapeutic difficulties as any other articulation in the body with the possible exception of the lumbo-sacral and sacro-iliac regions. Treatment generally has been a hit-and-miss proposition with apparently no definite scientific basis, chiefly because there was not a clear understanding of the pathology present.

The following are some of the causes of shoulder pain mentioned in a small collection from the literature: Fracture, dislocation, muscular strain, thermal change[1], arthritis, synovitis, fibrositis, myositis, subacromial bursitis, muscular paralysis, angina pectoris, aortic atheroma, aortic aneurysm, pleurisy, pneumonia, tuberculosis, intrathoracic new growths, pneumothorax, flatulence, indigestion, gastritis, gastric ulcer, gastric cancer, duodenal ulcer, gallstones, cholecystitis, nutmeg liver, new growth of the liver, hepatic abscess, hemiplegia, herpes zoster, caries of cervico-dorsal spine, new growths of cervico-dorsal spine, syphilitic cervico-dorsal pachymeningitis, cervico-brachial neuralgia, brachial neuritis, multiple peripheral neuritis, cervical rib, tumor in posterior triangle of neck, enlarged glands in axilla, aneurysm of subclavian artery, spinal cord tumor or spinal gliosis, neuromata, adiposa dolorosa[2], pulmonary infarct, lesions of lower right lung, perforated gastric or duodenal ulcer, subphrenic abscess, perforation of the gallbladder, perisplenitis, spontaneous rupture of the spleen, acute pancreatitis, appendicitis, pressure of drainage tubes, suprarenal tumor[3], tumor of the hypophysis, hiccough[4], apical tuberculosis[5], new growths of upper lung fields[6], ruptured ectopic pregnancy[7], pneumoperitoneum, intrauterine insufflation for determining patency of tubes, calcified cervical glands, spurs on clavicle[8], and osteomyelitis[9].

The purpose, however, of this paper is to describe the role of x-ray examination in this difficult condition. I shall present briefly the x-ray findings in some common lesions in the immediate vicinity of the shoulder, namely: 1. Cervical rib. 2. Arthritis of the shoulder. 3. Arthritis of the cervical spine. 4. Calcified cervical glands. 5. Acromio-cla-

*Presented before the Sixty-fifth Annual Session of the Colorado State Medical Society at Estes Park, September 5, 1935.



Fig. 1. Calcareous deposits in the supraspinatus tendon near its insertion into the greater tuberosity of the humerus.

vicular separation. 6. Arthritis of the acromio-clavicular articulation.

I shall describe more in detail the x-ray findings in supraspinatus tendon injury, giving the pathologic background for each, and show why our present knowledge supports the opinion that the primary pathology in so-called subacromial and subdeltoid bursitis is in the tendons of the short rotators of the shoulder, usually the tendon of the supraspinatus muscle. I shall also stress the importance of proper radiographic technic in examinations of the shoulder region.

Cervical rib is a not infrequent cause of pain in the shoulder, the pain being due to a mechanical irritation of the brachial plexus. These ribs may vary in size from an elongated transverse process of one of the lower cervical vertebrae to a separate rib several inches in length. It must be remembered that only 5 per cent of cervical ribs give a brachial plexus effect.

Arthritis of the shoulder is not so common as arthritis elsewhere in the body. There are several types of shoulder arthritis: those due to specific disease such as tuberculosis; those due to remote foci of infection; and, more recently described, a type believed to be due to hyperparathyroidism. The x-ray findings are the same as in other joints except that they are much less marked in relation to the subjective symptoms. These findings are:

1. Bone production.)
2. Bone destruction.) (with one or the other predominating)
3. Narrowing of the joint space.
4. Haziness over the joint space (in some types, especially tuberculosis).

The shoulder pain from an arthritis of the cervical spine is difficult to explain since we may have marked x-ray findings and few symptoms or few x-ray findings and severe symptoms. Considerable research at this time is endeavoring to explain this apparent paradox. Some, at least, of the shoulder pain in these cases is due to involvement of the brachial plexus. The bony exostoses, with or without narrowing of the joint space, and bone destruction visualized on the roentgenogram are too well known to require detailed description.



Fig. 2. Eburnation—area of increased density in the greater tuberosity of the humerus at the insertion of the supraspinatus tendon. Roentgenogram made five weeks following injury.

According to Butler and Elward[3], calcified cervical glands may cause shoulder pain, but the only cases I have seen were picked up accidentally in routine x-ray examinations of the shoulder or cervical spine. Here, again, the cause of the pain is believed to be due to a mechanical or inflammatory irritation of the brachial plexus.

Acromio-clavicular separation is a not uncommon occurrence, but it is interesting because of the fact that in milder cases it is sometimes very difficult to make a diagnosis, both from the clinical and x-ray standpoints. Clinically, one is often misled by a false crepitus or grating sensation which may be encountered in almost any normal acromio-clavicular articulation. Radiographically, one can be misled if only the usual view of the shoulder is taken. Frequently it is necessary to make roentgenograms with the arm in two positions, abduction and adduction, and it has been found that plates made with the patient standing will frequently reveal a separation when all other methods fail.

Arthritis of the acromio-clavicular articulation is evidenced on the roentgenogram by mixed hypertrophic and atrophic changes and by a narrowing of the joint space. Its chief importance, from the x-ray point of view, lies in the fact that a true arthritis of the joint must be differentiated from simple hypertrophic excrescences of the acromion which are occasionally secondary to an old injury of the supraspinatus tendon. Whenever only hypertrophic changes are visualized about this joint, a careful study should be made to exclude previous supraspinatus tendon injury.



Fig. 3. Same case as Fig. 2 eleven months following injury. Note increase in density at insertion of supraspinatus tendon.



Fig. 4. Caverns—small circular areas of bone absorption immediately beneath the surface of the greater tuberosity of the humerus. This roentgenogram also reveals trabecular atrophy in the greater tuberosity of the humerus. Note the calcareous deposit which may have ruptured into the bursa and now lies in the dependent portion of the joint capsule.

According to Throckmorton[1], of the various muscles which cross the shoulder joint or enter into its movements, the one most prone to strain or injury is the supraspinatus. This muscle strain may be so great at times as to produce a partial or complete rupture of the tendon or even to tear it from its bony attachment to the greater tuberosity of the humerus.

A search of the literature reveals that Codman[10], Wilson[11], Fowler[12], Carnett[13], and Throckmorton[1], and Keyes[21] are the only es-



Fig. 5. Avulsion fracture of the greater tuberosity of the humerus at the insertion of the supraspinatus tendon.

sayists who stress the importance of supraspinatus tendon injury. Greeley[14] also mentions it but only as a complication of dislocation of the shoulder. This dearth of literature accounts for much of the lack of knowledge at the present time. Apparently Codman's articles were the only ones published before 1931 with the exception of Carnett's paper published in 1925 under the title of "The Calcareous Deposits of So-called Calcifying Bursitis"[13], in which he emphasizes the importance of supraspinatus tendon injury. Codman[10] states, "I believe that rupture of the supraspinatus tendon is the most common industrial injury causing prolonged disability and that more lost working days may be charged to it than to all the other industrial shoulder injuries combined." This is certainly a broad statement and one which is difficult to accept, but when we consider that he found one or more ruptured supraspinatus tendons in any series of twenty cadavers in the Harvard Anatomy Department[10], and after Dr. I. B. Akerson[15] of the pathology staff at Harvard Medical School reported that in a series of two hundred postmortem examinations sixty-four showed some evident lesion of the supraspinatus tendon, the statement cannot be ignored. It must be noted, however, that these autopsies were performed on bodies of aged people, hence the percentage is probably higher than would be found generally. In my opinion, many cases diagnosed as bursitis, arthritis, neuritis, synovitis, and myositis are in reality cases with ruptured or injured supraspinatus tendons. Codman[10] believes that practically all cases of traumatic subdeltoid or subacromial bursitis are due to ruptures of this tendon. Thus the importance of this entity is evident. Any prolonged disability of the shoulder with a history of sudden onset should be regarded with suspicion.

Most of the essayists on this subject fail to stress the importance of x-ray examination and imply that it is of little value except in the cases with calcifications in the tendon. It is frequently true that immediate-



Fig. 6. Excrescences on the greater tuberosity of the humerus and on the outer edge of the acromion process. Note the calcareous deposit believed to be in the tendon of the infraspinatus muscle. (Courtesy Drs. Stephenson, Allen, and Weeks, Denver, Colorado.)

ly following a rupture of the supraspinatus tendon, the roentgenogram is negative, but we seldom see these injuries until weeks or months have elapsed and there are then very definite, positive x-ray findings. Even a negative x-ray, taken soon after the injury, is of great value because it excludes conditions with which this type of lesion is confused, such as I have described, and more especially fracture of the greater tuberosity of the humerus and old calcifications in the tendon of the supraspinatus muscle.



Fig. 7. Recession of the greater tuberosity of the humerus, probably caverns are early manifestation of this same process. (Courtesy Drs. Stephenson, Allen, and Weeks, Denver, Colorado.)

The roentgenological findings most frequently encountered are:

1. Calcified deposits in the supraspinatus tendon, near its insertion.
2. Excrescences on or roughening of the greater tuberosity of the humerus.
3. Area of increased density in greater tuberosity at insertion of supraspinatus tendon (eburnation).
4. Roughening of outer edge of greater tuberosity below insertion of supraspinatus tendon (bursal osteitis).
5. Areas of bone absorption beneath greater tuberosity (caverns).
6. Recession of tuberosity—disuse.
7. Trabecular atrophy in greater tuberosity beneath base of bursa.
8. Hypertrophic changes at edge of acromion process.

Several theories have been propounded as to the cause of the calcareous deposits, but the one most commonly offered, and the one to which I subscribe, is that they are the result of Nature's attempt to repair tissue with a very poor blood supply. This presupposes an injury to the fibers of the supraspinatus tendon, hence I list calcified deposits as one of the x-ray findings in supraspinatus tendon injury. These calcareous deposits may rupture into the bursa and give a diffuse flocculent shadow throughout the area occupied by the bursa.

Since a recent book[19] written by two orthopedic surgeons has a section on traumatic periarthritis of the shoulder in which they say, "The roentgenogram is usually negative, but may show chronic arthritis or calcareous deposits in the subacromial bursa," I think it advisable to stress the fact again that these deposits are not in the bursa but in one of the spinatus tendons or those of the other short rotators of the shoulder. In the light of present day knowledge, it would appear that the authors should have qualified their statement somewhat, at least. Careful dissection by capable surgeons well versed in the anatomy of the shoulder has fairly definitely proved this fact. If these deposits were due primarily to lesions of the bursa, it is difficult to understand why many of them are not found in the roof of the bursa[13]. They are never found there when a careful dissection has been done. In these cases, Carnett[13] has never found any accumulation of fluid within the bursa. This certainly speaks against any marked involvement of the bursa.

As mentioned above, most authors feel that injury to the supraspinatus tendon is the dominant feature in these cases of calcareous deposits. A dissenting voice is heard from Dickson[20] of the Cleveland Clinic who feels that foci of infection, glandular dys-

function, and metabolic disturbances are more important than trauma. It is my contention that if this is true, we should have the same x-ray findings in other articulations of the body; it seems peculiar that general disturbances of this type should confine their manifestations to the shoulder. I do not mean to belittle their value as contributing factors, but to say they are the dominant factor is, I believe, a little far-fetched. We do have an arthritis of the shoulder, probably caused by a focus of infection, and one caused by glandular dysfunction, but these give essentially the same x-ray findings as arthritis in other joints and it is not to these conditions that Dickson refers.

The second sign, roughening of the greater tuberosity of the humerus at the insertion of the supraspinatus tendon, may be due to an avulsion of particles of bone, or, in old cases, excrescences caused by chronic irritation.

By eburnation is meant an increased deposit of lime salts, probably the result of chronic inflammation. This gives the area of increased density visualized on the roentgenogram at the insertion of the supraspinatus tendon. To a certain extent the density increases with the length of time following the injury.

In old ruptures of the supraspinatus tendon, a bursitis develops and this causes an osteitis of the underlying greater tuberosity of the humerus. This accounts for the roughening of the tuberosity below the attachment of the supraspinatus tendon.

The small areas of bone absorption, which Codman[17] calls caverns, beneath the surface of the tuberosity probably represent the early stage of the next sign, namely, recession of the greater tuberosity. This can be accounted for by disuse. The ruptured tendon no longer functions, hence there is no need for the tuberosity and it atrophies.

Trabecular atrophy beneath the base of the subacromial bursa shows as an area of decreased density. This is probably due to chronic congestion of the small vessels of the marrow spaces.

In cases of long standing bursitis from complete rupture of the supraspinatus tendon, hypertrophic changes are often seen at the edge of the acromion process. These changes probably result from the bursitis or a chronic irritation of the acromial edge by the roughened greater tuberosity of the humerus.

Perhaps the x-ray findings should be divided according to Codman's[18] classification into those cases with complete rupture of the supraspinatus tendon, those with calcareous deposits, and those with partial ruptures of the tendon; but I feel that the latter two are very closely related and except for those with calcareous deposits, a differential diagnosis by x-ray is very difficult. Hence, I prefer to list all the findings under the general head of "Injuries to the Supraspinatus Tendon."

Any discussion of this subject should emphasize the importance of good roentgenograms and proper radiographic technic and positioning of the patient. To visualize the pathology I have described, it is necessary that the maximum of contrast and detail and the minimum of distortion be obtained on the film. Occasionally soft tissue technic will be necessary and frequently two sets of roentgenograms, one with the humerus in external rotation and one with the humerus in internal rotation must be taken before the examination can be called complete. If pathologic changes are not visualized in plates taken in one position, by all means take the other position. I am sure a great deal of pathology has been overlooked through failure to do this. The greater tuberosity of the humerus is better visualized with the humerus in external rotation and since most of the pathology is near the greater tuberosity, radiographs should be made in this position first. Frequently, calcareous deposits are hidden by the head of the humerus if only one position is used. Carnett[13] believes those cases in which the calcareous deposits disappear spontaneously in a short time are mainly due to faulty x-ray technic at the second examination. Stereoscopic plates should always be made in any x-ray examination of the shoulder. Perhaps poor plates have led to the belief of many authors on this subject that x-ray examina-

tion is of little positive value and account for the general lack of knowledge on the x-ray side of this question. It is to be hoped that a technic can be developed whereby the actual rupture can be visualized in complete ruptures of this tendon. Perhaps the solution to this problem lies in the injection of air or an opaque substance into the shoulder joint.

Summary

1. The x-ray findings in some common lesions in the immediate vicinity of the shoulder are described.

2. The importance of x-ray examination in cases of injury to the supraspinatus tendon is emphasized. The x-ray findings are described with the pathologic background for each.

3. Calcareous deposits in the tendon of the supraspinatus muscle previously supposed to be in the subacromial bursa are given as one of the x-ray findings in supraspinatus tendon injury because of the preponderance of opinion today that they result from injury to this tendon.

4. Good roentgenograms taken in the proper position are essential before pathology due to supraspinatus tendon injury can be visualized.

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DISCUSSION

I. W. Haughey, M.D. (Fort Collins): Having had this injury three times, I claim to be an authority on the symptomatology. It is absolutely impossible to raise the arm after one of these injuries more than a few inches. It is very difficult to find a comfortable position for sleep. For days or weeks the finger crawl up the wall is the only way you can get the arm up, and it is almost an impossibility to raise a weight beyond the shoulder.

This deposit, if it is a calcareous deposit, is pinched in between the head of the humerus and the acromion. I have to use all sorts of ingenuity to get a weight of any sort above the shoulder; whereas before that I could throw a baseball successfully, it is an utter impossibility now, many years after the injury.

For a long time, two months to ten weeks, the shoulder is seriously disabled and then for months after that partially disabled so that it runs into five or six months and the permanent disability is just as I have mentioned. You can raise the arm up all right but to take a weight with it is practically impossible. I suppose it is caused by the pinching of this deposit between the bones.

As to the nomenclature of this condition, "Painful shoulder" might cover a lot of conditions. There are other conditions—for instance, the pain that you have at the insertion of the deltoid. Most everybody has had it. I don't think it has any connection with this one, and yet we might call it a painful shoulder. There is pain right under the acromion process. Somebody with ingenuity ought to invent some name that would adequately describe this particular injury, because it probably is the most important injury which produces disability of the shoulder.

John B. Hartwell, M.D. (Colorado Springs): During the time that Codman was working on the shoulder back as far as 1905 he claimed that injuries of the supraspinatus tendon present the most disabling injuries caused by industry.

It has been mentioned only incidentally in the papers presented that a great many of these shoulder injuries result not merely in an injury to the supraspinatus tendon but also result in an actual rupture of the supraspinatus tendon. The supraspinatus muscle fixes the head of the humerus in the glenoid and enables the deltoid then to raise the arm. One reason why the arm can't be raised is because this fixation by the sup-

raspinatus tendon of the head of the humerus to the glenoid is impossible.

The pain that the last speaker mentioned as referred to the deltoid insertion has been shown by Codman to be due to a lesion about the subdeltoid bursa. It is a referred pain; while the pain actually occurs at the deltoid insertion, the point of tenderness is not there but rather in some relation to the greater tuberosity of the humerus.

Codman advocates that all of these acute injuries to the shoulder with pain and inability to abduct and externally rotate, should be explored and insists that the technic is so simple that it can be perfectly well done with a very minute incision under local anesthesia. With all the work he has done he has not been privileged to operate on a single recent case but in the cases in which he has operated he has found a rupture complete or partial in a very large number, and by suture has been able to restore these men to usefulness and get them off of compensation.

T. R. Love, M.D. (Denver): Considerable has been written about the question of allergy in relation to painful joints. There are probably a fair number of cases of painful shoulder resulting from local infections, particularly of the nose and throat. We should always keep in mind the possibilities particularly when we have such a history.

Leonard Freeman, M.D. (Denver): The ideas of Dollinger of Budapest deserve attention. He regards the difficulty as due to a sprain or overuse of the supraspinatus muscle and that the trouble is caused by an inflammatory and painful thickening of that muscle, not of the tendon alone, but of the entire muscle. That is an important thing, I think, to bear in mind.

The reason a diagnosis is not made earlier than it otherwise would be and is very difficult to make is because of the fact that the muscle is so deep-seated and so thoroughly protected. As you know, it lies in the supraspinatus fossa and is surrounded by bone on three sides. On the other side, the superficial side, it is covered by its own fascia which is thick and firm, and by a prolongation of the fascia from the trapezius muscle, and it passes under the acromio-clavicular joint and under the pterygoid ligaments and under the acromiou process itself and then under the thickness of the deltoid muscle. It is therefore very hard to palpate, but if it is palpated properly, it is found that the whole muscle is tender and sometimes, in the more acute cases, exquisitely so.

The interesting thing is the treatment. The treatment consists in well-directed, firm, deep, skillful massage of this supraspinatus muscle in its whole course,—not of the tendon alone, but the whole course of the muscle. That is not easily done because of its deep and protected situation. It has to be done, for instance, by pressing down very firmly with, we will say, the thumb or with the fingers balled into a point or perhaps with a knuckle of the hand and perhaps the massage has to be reinforced also by beating on the muscle.

These treatments are carried out once a day at first and then once every other day. The relief from the acute symptoms is very quick. It comes at once, but on the other hand, there are certain chronic symptoms from stiffness and disability that may require a good deal of patience and rather prolonged treatment.

Dollinger has treated a number of cases in this way with very excellent results, getting his results in the course of several weeks of treatment. My own experience with this method of treatment has not been great, but as far as it goes it has been favorable.

Inasmuch as an operation can be sidestepped by this sort of treatment and it is not an operation of complete indifference, I think it is well worth trying.

NEWER CONCEPTS IN THE TREATMENT OF FURUNCULOSIS*

DUVAL PREY, M.D., and JNO. M. FOSTER, JR., M.D.
DENVER

Furunculosis has been a torment to mankind since Biblical times and even before then the records of our ancients show that this affliction was commonly experienced. However, there are several curious facts associated with this disease now known, which, by further study, may supply the stepping stones to an intelligent and completely satisfactory method of treatment. The most interesting of these is that recurrent furunculosis is rarely seen in women and children. The ratio of occurrence of this condition in men and in women has been stated by numerous authors to vary from 5 to 10 per cent. The reason for this is that there is a marked paucity of all bacteria on the skin of women and children, because of its dryness, and we know that bacteria do not flourish as well on a dry surface as they do on one which is moist. Norton and Norg in their experiments with the Bacillus prodigiosus found that these organisms disappeared in direct proportion to the moisture on the skin. This finding is of particular importance when we appreciate that moist fomentations continue as the favorite treatment for the common boil. However, it was not until Pasteur demonstrated the causative agent for the common boil to be the Staphlococcus aureus, that any real progress toward an effective treatment was possible. The value of prophylaxis against furunculosis was then so highly appreciated by the French government that the military

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surgeons ordered the flaming of the buttocks of their cavalrymen.

Recently, it has been clearly demonstrated that furunculosis may be associated with a high blood sugar. This is now such common knowledge that a search for an abnormally high blood sugar in all cases of recurring furunculosis is seldom neglected. Oddly enough, this finding is not present in a large percentage of the cases, and therefore other causative factors must be found. As long as furunculosis causes more fatalities than any other skin disease, the common boil must be treated with the utmost respect by the medical profession. It, therefore, behooves us to utilize every possible method of treatment whose foundation is scientifically sound eventually to eliminate, or at least minimize, the seriousness of this dread affection.

In regard to the treatment of recurring furunculosis everything, or almost everything, under the sun has been tried. Both local applications and general measures have found a certain favor, so that at present not only individuals but the nations themselves seem to have their favorite form of treatment. For instance, the German authors repeatedly advocate the use of autohemotherapy as the treatment of choice for this disease. This consists of removing 10 to 20 c.c. of blood from the patient's arm and injecting it immediately into that individual's tissues, preferably the buttocks. We have used this form of therapy several times with only moderately gratifying results. Russian physicians advocate the actual cautery associated with the systemic feeding of yeast; the French utilize the x-ray with moderate success. The Mayo clinic in a recent publication claimed the most gratifying results were obtained after the intravenous injection of urotropin. Several English surgeons found that their patients obtained relief following potassium permanganate and thyroid therapy. In the United States, tin medication has become extremely popular during the past few years.

These methods of treatment have proved only partially satisfactory in our hands, none giving complete satisfaction in every case, but all were of some value in isolated cases. However, during the past year we have discarded all other methods of therapy, because of most excellent and startling results obtained by the intravenous injection of colloidal animal charcoal in the treatment of this disease.

Professor Conklin, of the MacDonald College, reported in 1928 the value of the intravenous injection of colloidal charcoal as a treatment for various infections in animals. His report was based upon experimental work with 738 cases of various infections with uniformly good results. Eugene St. Jacques of Montreal, applying this method in 150 patients, reported his results verifying in every respect Conklin's animal experimentation. The use of charcoal in the treatment of various diseases is not new. At one time puerpural sepsis was treated by packing the uterus with this substance. But the experimental work of Lucas and Henderson in Toronto showed that few charcoal preparations were of value, and it was not until Conklin's work that the value of the intravenous injections of colloidal animal charcoal was appreciated.

Various theories have been advanced to explain the extreme efficacy of this method of treatment, but the most likely explanation is the one that charcoal particles are absorbed by the spleen, liver, and bone marrow, thereby activating the endothelial cells, resulting in an increase of the polymorphonuclear leucocytes in the blood stream. This theory was further substantiated in our own cases. One case showed an enlargement of the spleen following a second injection, and all showed an increase in the polymorphonuclear cells.

The suspension of charcoal when given intravenously seems to be innocuous regarding untoward symptoms—as dizziness, headaches, chills or shock. Jacques reports a slight rise in temperature following the injections in a few instances, but we have not experienced this reaction. He also mentions a moderate diarrhea the following day in two of his cases; this symptom likewise has been foreign to our experience. In almost one thousand injections both of our own

and those reported in the literature there has not been a single instance of an alarming reaction following the intravenous injection of colloidal animal charcoal.

When this form of therapy is applied to a case of recurring furunculosis, the immediate improvement is most astonishing. An example is the following case: A girl, 21 years of age, had had several boils on her left hip. She then developed a furuncle on the left cheek, which at the time of our examination was well along in its course, associated with marked swelling of the entire cheek, so marked that the left eye was almost closed. Twenty-four hours after one injection of 5 c.c. of the charcoal the furuncle was smaller, the edema had entirely disappeared, the pain was gone, and within forty-eight hours the boil itself had practically disappeared. As a further example of the value of charcoal in the treatment of furunculosis, we cite an even more spectacular case. This was an elderly gentleman, who during the past eight weeks had sixteen boils. These were situated on both arms and the right axilla. When referred to us there was one well advanced furuncle with four smaller ones just beginning to appear in the left axilla. Following the intravenous injection of 5 c.c. of the colloidal animal charcoal the pain disappeared and the discharge from the main furuncle was definitely lessened, but even more important was the complete disappearance of the small adjacent beginning furuncles. These two cases, although spectacular, are not unusual to our experience in the treatment of furunculosis with the intravenous injections of colloidal animal charcoal.

The preparation we have used comes in 3 c.c. and 5 c.c. ampules. In the milder infections we have found the dosage of 3 c.c. to have been ample. The injection may be repeated in forty-eight hours, with perfect safety, if deemed necessary. Because the small particles of charcoal may adhere to the wall of the syringe or needle, a lubricant is necessary to prevent the sticking of the syringe, therefore, by placing a small amount of vaseline in the water of the sterilizer while boiling the syringe and the needle, enough of the lubricant will adhere to the parts to permit a smooth injection.

Unfortunately, the average patient upon presenting himself to the doctor for the complaint of furunculosis has at least one well-developed boil which is causing him extreme discomfort. We have found that in conjunction with the charcoal treatment, that the local application of contractile collodion, as suggested by Robbins, is extremely valuable. This form of local therapy has several advantages. First, it relieves the pain instantly; second, it protects the surrounding skin; third, it permits the application of a small dry dressing, and fourth, it is not incompatible with other methods of treatment.

The collodion must be of the contractile quality, not the flexible, and is applied by means of a saturated swab. Ten to twenty strokes are made around and on the boil, leaving a small opening at the center, where the boil seems to be pointing. The collodion should be applied thickly and should extend well beyond the edge of the furuncle. As the collodion dries, the pain is relieved within thirty seconds and wrinkles will appear, extending on to the surrounding skin, demonstrating its contractility.

By combining these two methods of treatment, the local application of contractile collodion to the furuncle and the intravenous injection of colloidal animal charcoal, we feel that we are presenting an ideal method of care for furunculosis. Certainly, this is true in our experience, and we hope that by stimulating others to use this form of therapy, further improvements will be made in the treatment of this unpleasant and distressing disease.

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ABSTRACT OF DISCUSSION

J. G. Hutton, M.D. (Denver): Perhaps the most common mistake made in the treatment of furunculosis is incising the lesions at too early a date. By the early incision of these lesions, fresh tissue is opened up and the infection spreads to this fresh tissue, later becomes necrotic and greatly delays the healing process.

The early incision does, however, relieve to a certain extent the local pain which accompanies the formation of the lesion due to the pressure of the pus. For this reason practically all of us are led into making this very common mistake of too early incision. However, if other therapy is used to relieve the local pain of furunculosis and incision delayed for twenty-four to forty-eight hours, then the lesion can be safely opened and healing occurs much more rapidly.

An ideal treatment for cases of furunculosis is one in which the local pain is controlled and the general condition of the patient is improved by producing a leukocytosis. Since the intravenous injection of colloidal animal charcoal fulfills these conditions without producing any untoward symptoms, it seems only logical that it should receive further use in the treatment of stubborn cases of furunculosis.

C. A. Ringle, M.D. (Greeley): The author of this article has mentioned in particular a very large boil involving an extensive area on the cheek. This is recognized, I believe, as a very dangerous situation for a boil on account of involvement of the cavernous sinus. Of course no boil should be incised until it has become thoroughly localized and then incised only in the area of the greatest amount of inflammation and particularly on the cheek. There should be no medical interference made until there has been a thorough localization of the inflammatory process.

I would like to ask somebody the question (perhaps an otolaryngologist) whether the use of this animal charcoal might not be a cure for cavernous sinus thrombosis.

E. R. Mugrage, M.D. (Denver): I would like to stress the reticulo-endothelial system as a tissue which should be regarded by us as one of the most important tissues of the body. Probably all of the antibody content which is so vital in resistance toward various infections originate in the tissue of the reticulo-endothelial system.

It has only been in the last few years that we have heard much of this system for the simple reason that these cells making up the system are not collected together in an organ like the spleen or the liver, but these cells are diffused through the tissues of the body and unless we make very careful histologic study they are overlooked, but these cells are exceedingly important—far more important than the recognition that is ordinarily given them.

The paper by Drs. Prey and Foster is one which cites the stimulation of the reticulo-endothelial system as brought about by animal charcoal.

GRANULOPENIA (AGRANULOCYTOSIS)*

WITH REPORT OF A CASE

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COLORADO SPRINGS

Turk, in 1907, first called attention to a certain class of severe septic cases having a low leucocyte count. This report was followed in 1922 by an extensive report by Schultz[1], who described six cases in which there was an absence or great decrease of the granular cells. All of his cases were females of middle age who were in good health up to the onset of the disease. In all these cases, an acute infection developed in the pharynx and mouth, with enlarged cervical glands. Since Schultz's report, the medical profession has been called upon to combat a new disease called granulopenia. This condition being apparently on the increase, we feel that there is no question but what it is fairly new in its development, as our good clinicians of thirty or forty years ago certainly would not have overlooked it entirely.

CASE REPORT

Mrs. F., aged 52, was first seen by Dr. W. A. Campbell, Jr., the afternoon of July 16, 1933. A few days previously she had come to Colorado Springs from her home in Chicago, with the intentions of spending a short vacation with her parents. She said she had just been for a little ride, and when she arrived back home, she suddenly noticed she had a sore throat, some difficulty in swallowing, a little aching in both sides of her neck, as well as a generalized aching. She was feeling perfectly well up to her return from her ride. Upon examination, Dr. Campbell found she had a temperature of 99.4°. Heart and lungs, negative. Throat showed much redness of both tonsillar regions with some redness of the posterior pharyngeal wall. As it was thought she had an acute cold, she was advised to remain in bed for the next day or two. Acriflavine was used on her throat and empirin compound taken four times a day. This was done with the expectation she would be all right within the next few days.

The next day, the patient said she had had a very restless night; there was more stiffness of the neck muscles, combined with more pain and discomfort of these parts. The body aching was

*Read before the El Paso County Medical Society, November 13, 1935.

not so marked, while the difficulty in swallowing was about the same. There was no change in her throat condition except some enlargement of the superficial cervical glands.

Patient was seen again that evening. Temperature was 101.2° and pulse, 110. General condition showed no change, but it was felt that by the next day she would feel much better. Next day her condition not so satisfactory. She had a very restless night, it was very difficult to swallow, and there was much pain in the throat. Temperature was 101°. There was a little more swelling of cervical glands, with more tenderness on both sides of the neck. There was no change in the heart or lungs and no obvious enlargement of other lymphatic glands. The following day, all signs and symptoms were increased and there was definite ulceration over both tonsillar regions. She had the appearance of a desperately sick woman. The throat had been treated regularly with acriflavine, antiseptic mouth wash used, empirin compound given, and stimulants administered. During the last twenty-four hours she had been quite nauseated and unable to retain even liquids.

A blood count was done the next morning, July 20. She then appeared much worse and was not able to swallow. There was much more swelling of the tissues of the neck, with marked difficulty in opening the jaws. The throat condition showed more extensive ulceration. Blood count: Leucocytes, 1,000; polys, 2 per cent; lymphs, 98 per cent; hemoglobin, 90 per cent; red cell count, 4,800,000.

Diagnosis of granulopenia was immediately made. Dr. Leo Bortree was called in consultation, and it was decided to give her an injection of pentnuclectide at once. As this was being prepared, the patient expired.

Past history revealed no chronic infections, but she always had been a rather nervous individual and had been subject to severe headaches for which she had taken medicine. In this instance, however, it was not known that she had taken any. When she arrived from Chicago, her only complaint was that she was fatigued all the time. This, it was thought, was due to worry over financial losses.

On November 20, 1934, seventeen months after her death, I received the prescriptions which she had been taking at her home. One was amidopyrine, gr. 31; "cal-bis-ma," ad ounces 2 q.s.; Sig., dram in water, half hour after meals. The other prescription was for luminal, gr. 7½; metatone, q.s. ad ounces 3; Sig., drams one, after each meal. We were now satisfied as to the cause of her illness.

Autopsy Report: The posterior two-thirds of the lower lobe and the posterior third of the upper lobe showed a beef-red appearance in contrast to the grayish red, essentially normal appearance of the remainder of the lung. On cut section, however, they were air-containing but the cut surface stood up a little bit above the surrounding tissue. There was a very distinct line of demarcation between the reddened areas and the normal lung tissue and on cut section of the lung additional areas of beef-red tissue appeared. Examination of the pulmonary arteries and the opening of these arteries did not show any definite emboli or thrombi except in some of the smaller branches. The left lung was also free of adhesions and lung was removed. The posterior portion of the upper lobe showed similar beef-red appearance; lower, essentially normal. On cut section it appeared the same as on the right side. On this side, however, on opening the pulmonary artery there was found a blood clot which appeared to be definitely formed and antemortem in character. This blood clot occurred in the branch of the artery just at the margin of the bright red area in the lung and within the reddened area it was possible to express from cross sections of the branches of the artery small plugs of definite thrombotic material.

The heart contained blood clots which were apparently organized in character and were grayish in appearance. They did not tend to be characteristic of the usual postmortem clots. They could be separated and apparently were in the form of strands of clotted material. On opening the right ventricle the ventricular cavity was also found filled with similar material, and these extended up to the pulmonic area. All these clots appeared different from mural clots against the wall of the ventricle. They were not firmly organized but were circular and rod-like in character. The tricuspid valve leaflets appeared normal. The left auricle contained no clots. The mitral ring was quite fibrotic and the valve leaflets showed considerable thickening along the edges with some small areas characteristic of old vegetations. Otherwise the cardiac examination was not remarkable.

The abdominal cavity, pelvic organs, and kidneys were unimportant. However, the spleen was four times normal size, soft and spongy in consistency, and was spongy on cross-section.

The bone marrow was examined and found to be bright red in color. Smears of the bone marrow showed the typical picture of malignant neutropenia insofar as the granular elements and myelocytes were almost completely missing. An occasional myelocyte was seen but were few in number. The red blood cells were normal and numerous normoblasts were seen.

Etiology

Until the etiology is finally solved, our treatment will be unsatisfactory[2]. The etiological agent destroys the myeloblasts and myelocytes in the bone marrow and the granular leucocytes in the blood stream, thus disrupting the normal cell production of the bone marrow.

The life of the granulocyte is from three to five days. If the granulocytic function is suspended, agranulocytosis rapidly supervenes and the life of the individual is threatened.

Is the normal function of the bone marrow destroyed by some agent tearing down the protective barrier, followed by an invasion into the unprotected system of specific bacteria, or is there something lacking in the bone marrow which makes it impossible to respond to the stimulating effects of the liver, spleen and endocrine glands? Or is the condition due to some drug of common use which destroys the normal function of the bone marrow?

Granulopenia is a disease found especially in the white race. Seasons of the year apparently have no influence. Countries showed a wide variation in the number of cases reported up to 1935. There were over 500 cases reported in the United States[3]; Germany, 350; France, 100; Italy, 50; England, 6. There are undoubtedly cases which have occurred in other countries, but not reported. Very few cases have been reported in the colored race.

Average age is between 35 and 55 years of age, although a few cases have been reported in the very young, as well as in the aged. The disease seems to be prevalent in the better class of people.

In a table worked out by Kracke and Parker, taking 162 cases, they have found the disease prevalent in the following order: housewives, 102; physicians, 22; nurses, 17; relatives of physicians, 11; business men, 10. Does the analysis given show that the above class of people seek help sooner than those of the common working class? This would hardly be true because many of the working class, especially in the larger cities, seek relief in the larger clinics, where, for the last few years, the clinicians are on the lookout for these cases. Some still think that this disease occurred many years ago, and while not as common as now, it nevertheless was with us. But it has been impossible for them to explain the fact that a low leucocyte count, in cases which stimulated granulopenia, was not present. Their opinion is based upon chemical evidence unsupported by laboratory findings. Some have felt that the condition followed severe infections of the throat, as many cases either have an ulceration of the mouth or throat, or at least an inflamed mucous membrane, but we must not forget the fact that not infrequently the disease shows up in the blood before any pathological condition is found in any of the mucous membranes. Many cases have shown the presence of Vincent's organisms, but these organisms have been found not infrequently in the throat and mouth of apparently normal individuals, and in examining the blood of these individuals, no change in the blood picture was found. Professor Kracke says they have studied over fifty cases of Vincent's angina with reference to the blood picture, and for weeks have made daily tests, and it is their opinion that there is no relationship between Vincent's angina and granulopenia.

While research up to the present time has not shown us the definite cause of granulopenia, it has nevertheless presented certain salient facts which cannot be discarded in our search for definite causes. The paper of Kracke and Parker, of Emory University, Georgia, printed in the Journal of Laboratory and Clinical Medicine in May, 1934, deserves recognition as a thorough article on the etiology of granulopenia. It is their belief that the prevalence of the disease in the United States and Germany is influenced by the extensive use of coal-tar derivatives. In these countries, some of these drugs, in combination with the barbiturates, have been more extensively used during the last ten or twelve years, while in England and other countries, they are used much less. In their report of eleven cases, all gave a positive history of taking some drug associated with the benzine ring, such as amidopyrine, empirin compound, phenacetin, acetanilid, allonal, pyramidon, and arsphenamine. These drugs were taken from two months to ten years.

It is a well-known fact that certain chemicals will inhibit the normal function of the bone marrow, and as England is a very moderate user of many of these drugs, it is a common belief that the reason is apparent why they have so few cases. As Drs. Kracke and Parker say, it becomes our problem to determine which of these chemicals has come into wider usage and closer contact with our people during the last ten-year period, or during the period of agranulocytosis. They have shown by repeated animal experiments that the subcutaneous injection of benzine will produce a depression of the bone marrow with a blood picture in which the leucocyte count falls to 200 or 300 cells, with complete absence of granulocytosis. It is their opinion that this effect is produced not by the direct action of benzine on the bone marrow, but by the

effect is produced not by the direct action of some of its oxidation products. In support of this contention, they injected rabbits subcutaneously with a mixture of equal parts of benzine and olive oil, and the tissues at the site of injection were analyzed eighteen hours later for some of these products. The findings showed benzine only in traces, while phenol and catechol were present in considerable amounts. The bone marrow from the injected animals was analyzed and showed the presence of both phenol and catechol but no traces of benzine. Their work shows that, while benzine itself did not reach the bone marrow, it did not exclude further oxidation products of the benzine ring as the causative factor in the leucocyte depression.

Since that article was written, another article appeared in the Journal of Laboratory and Clinical Medicine in October, 1934, written by Herz[4]. He disagrees with those classifying amidopyrine as a benzine ring derivative, and he feels that a great number of these cases can be traced to amidopyrine alone or in combination with a barbiturate, and the granulopenia following the use of these drugs may be the result of an allergic reaction.

Madison and Squier[5] describe fourteen cases of granulocytopenia, all of which followed the use of amidopyrine—seven with barbiturates, six alone, and one combined with other drugs. Eight patients died. Physiological doses were used in all cases. One patient took amidopyrine, ten grains, daily for eleven days and developed agranulocytosis.

In November, 1933, Dr. Watkins of Mayo Clinic[6], reported thirty-two cases. Of this number, twenty-four had taken amidopyrine or a barbiturate. Ten had taken amidopyrine alone; of this number two died. One of the eight who recovered had twelve attacks within two and a half years. The number of the attacks was due to the fact that he was taking amidopyrine for the relief of migraine. Two patients used allonal; neither died. Four took sodium ethyl methyl butyl barbiturate; all died in the first attack. Two took phenobarbital, one died. There were eight patients, of whom Dr. Watkins was unable to get a history of any specific kind of drug being taken. They all had been under the care of physicians and it was thought that they may have taken either amidopyrine or the barbiturates. Dr. Watkins says, "Whether these persons have primary deficiency of the bone marrow is open to question, but before the onset of the neutrophenic state, the leucocyte response in most instances has been normal." The fact that in two cases recurring neutropenia has regularly followed the use of amidopyrine, would indicate that in these cases there is apparent association between ingestion of the drug and neutropenia. Dr. Watkins says that the possible relationship between these drugs and granulocytopenia is not, in his opinion, a general contra-indication to their use, but to be safeguarded, a leucocyte count should be made at frequent intervals. Dr. Herz feels that when anodynes or antipyretics are indicated, there is a much safer drug in acetanilid combined with caffeine and potassium citrate.

The endocrine glands have been under suspicion also, but up to the present time the study is incomplete and nothing definitely decided. X-ray and radium have been known to cause, in some cases, a definite leukopenia, so where this treatment is used extensively, frequent examinations of the blood should be made.

Teeth extractions have also been mentioned as a possible cause.

Symptoms

The course of the disease is from three days to three weeks following a sudden onset. The onset is usually accompanied by malaise, chills, headache, high fever and rapid exhaustion. It has all the appearance of an acute infection. While a few cases show no mouth or throat involvement, this is rare, as the majority show either an ulcerated condition or at least signs of a virulent infection. There may be ulceration of other mucous membranes, such as rectum and vagina. Cervical glands usually enlarge early in the beginning stages of the disease The blood examination gives the characteristic blood picture.

There is a rapid fall in the total number

of white blood cells. The polymorphonuclear leucocytes are reduced in the average case to 4 per cent or lower. Myelocytes are reported to range from 0 to 18 per cent. Lymphocytes vary greatly and may range from 60 to 100 per cent. The majority of cases show no change in the red blood cells, and the blood platelets are usually normal in number.

Treatment

Up to the present time we have two treatments which are proving fairly satisfactory. For many years it has been known that products of nucleic acid have the property of raising the peripheral white blood cell count[7]. Nucleic acid is a complex molecule made up of four nucleotides linked together. These neucleotides in turn are made up of a purine or pyrimidine base, a sugar, and phosphoric acid. In 1922, Henry Jackson, Jr[8]., first demonstrated clearly that nucleotides were a normal constituent of the body and circulation. In 1929, he began systematically to treat cases of agranulocytic angina and malignant neutropenia secondary to sepsis with pentose nucleotides.

In a letter of November 19, 1934, Dr. Jackson says:

"The complete series of cases of undoubted agranulocytic angina which have been reported to us or have been treated directly under my care total 103. The mortality in this series is 33 per cent. Of course, I have no means of knowing how many more patients have been treated or with what results. In this series only such cases have been discarded as were treated for thirty-six hours or less or died from some totally unrelated disease. Each patient has been counted but once, no matter how many remissions or relapses he may have had. If a patient recovered from one or more relapses and subsequently died, it was counted as a death and a death only. No case has been included which could not properly be regarded as the true disease. Insofar as possible, we omitted such cases as appeared to be obviously mild and in which the recovery might well have been spontaneous. Of course, it is impossible to rule out spontaneous recoveries in any individual case.

"Many other workers have used the material with success; some have had very little success. The failures are undoubtedly in part explained by the fact that diseases other than agranulocytic angina, such as aleukemic leukemia and aplastic anemia, have been treated with nucleotide. On the other hand, there is no question but what the drug has failed to cure a definite proportion of undoubted cases of agranulocytic angina. It is worthy of note, however, that in many of these latter cases other therapeutic agents, such as liver, x-ray, turpentine, transfusion, and the like, have been used and they, too, have failed to effect a cure. Another occasional cause for failure is the failure to use sufficiently large doses. We believe that any person who is really sick should receive 40 c.c., or even more, intramuscularly or (well diluted) intravenously per day until either there is a very definite improvement or ten days have elapsed. If no improvement is seen at the end of ten days, further treatment is useless. I should like to make it very clear that we do not regard Pentnucleotide as a specific remedy nor do we in any sense overlook the necessity of careful nursing and adequate general medical care. It goes without saying that such measures may be of the greatest importance. We do feel, however, that up to the present no therapeutic agent has been introduced which has shown greater promise than Pentnucleotide."

Pentnucleotide given intramuscularly[9] usually produces no marked reaction. Good results may be looked for about the fifth day, although in favorable cases myelocytes will appear as early as the second day of treatment. About the fifth day, if the treatment is going to show results, there is a sharp rise in the white blood cell count and mature polymorphonuclear neutrophils appear and the general condition of the patient shows improvement, but do not stop the treatment till the blood has been normal for several days. Inasmuch as there is great danger of a relapse in these cases of agranulocytic angina, the blood should be closely watched and immediately any appreciable decrease in the white blood cells is seen, treatment should be again instituted.

In a letter from Watkins of the Mayo clinic, he says:

"I have been using a preparation of bone marrow in the treatment of these cases and have had very satisfactory results. In the treatment of more than a hundred cases there have been very few deaths of patients who have been seen before the period of pneumonia or generalized sepsis. Improvement in the blood is evident within twenty-four to thirty-six hours after the initial dose is given, and improvement occurs quite rapidly. I am not positive as to the exact mortality at present although I am preparing a paper on this for next spring. The last time I reviewed the series of cases there had been about twelve deaths in individuals who had taken bone marrow; all of these died following the use of one of the derivatives of barbituric acid or a preparation containing amidopyrine. As you probably know, a good many individuals feel that barbituric acid derivatives cannot be incriminated. However, I think the paper I gave in Chicago this fall shows very definitely that there is a leukopenia produced in individuals with an agranulocytic tendency when drugs of this type are used."

Conclusions

Granulopenia has increased at a rapid rate during the past few years and is noticeably present among the medical profession and those associated with it.

The outstanding drug which seems the most frequent cause of this disease is amidopyrine, which is usually found to be taken upon the advice of a physician. Some safer drug should be used.

The treatment by injections of pentnucleotides (K96), as used by Jackson, or the treatment of Watkins in which he uses the bone marrow seems to give by far the best results.

After blood findings are normal, repeated examinations should be made. If any symptoms have returned, treatment should again begin at once. No originality is claimed for this paper, but I have gone over the literature carefully and tried to bring out what has been accomplished, especially in determining the etiology and treatment up to the present time in agranulocytosis.

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REPORT ON SCARLET FEVER IMMUNIZATION

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This report is being made because of the interest shown in the discussions at the Mid-Winter Clinic upon scarlet fever prevention and treatment. At the McKnight Hospital, Haxtun, Colorado, we have given about 430 patients the commercial toxin for active immunization as prepared by the National Drug Company of Philadelphia and Parke, Davis and Co., and have noticed no difference as to the amount of reaction of the two products given.

We insisted that our schools be immunized against scarlet fever because of the severity of so many cases in our locality. The Dick test was run on all the school children and there were many who showed a positive reaction. It was a simple matter to impress upon the people of the community its importance, since they knew about the danger of the disease from the severity of the existing cases.

About twelve cases reported severe reactions, the symptoms being pain, chills, slight rash and sore throat, lasting only a day or two. Six cases had badly swollen arms. If a small shot of the toxin caused such reaction, what could be expected if a person had the disease? This was all one needed to demonstrate the advisability of the continuation of the treatments.

Dick tests made during the winter of 1935-1936 showed four children still with positive reaction after the five treatments. They will be given an additional shot of 2 c.c. from No. 5 and will be tested again in one year.

We had one case who showed a negative Dick test one year ago, who had a mild case of scarlet fever this fall. This case has given us much concern and has brought to mind many questions as to the stability of the test. It brings up the question as to whether or not a case may be positive this year and negative next. This we have solved in a way that has been satisfactory to us—the fact that most of the cases which were checked were stable according to the tabulated form kept on file. Perhaps the patients had a positive reaction within a few hours after the Dick test was given, when we did not see the reaction, just as some will contract the disease within a few hours after exposure. We explained this coincidence to the parents on the foundation of the varied periods of incubation, and it was accepted as such by us and by them.

Another child, a little boy, aged five, had

reactions to all five doses but was positive this fall when given the Dick test. He was given one c.c., No. 5, and reacted severely, with vomiting. We have given him two more doses of 2 c.c., No. 5, at bedtime, with no dinner. He was given five grains of A. S. A., and if he had any reaction, he never knew it, except for a sore arm. Most of the reactions of which our patients have complained have been from Nos. 2 and 4.

In three cases we have used the whole blood from a convalescent patient, 10 c.c. deep into the gluteus maximus muscle, with just as good results as in this same treatment with measles. There would be a slight rash, lasting a few hours, a little sore throat, and about one day in bed. We happened to have had these children listed with positive Dick tests. The first case in the family was a severe one, keeping the girl in bed for ten days. Ear complications and desquamation kept her under quarantine for six weeks. The three children receiving the blood from the convalescent sister had mild cases of the disease with no complications and no desquamation.

We believe, in spite of the severe reaction in some cases, that the giving of scarlet fever toxin is good protection. It has been proved in our community that an epidemic of the disease could not happen in our midst, because we have too many of our children protected. We have had only three cases in the town this year with no spreading of the disease, while in many localities there have been severe epidemics. Holyoke and Amherst have put on the same program, much to the satisfaction of the medical profession, the people, and the schools.

No doubt, in time, the scarlet fever toxin for active immunization will be improved just as T. A. T. and toxoid have been perfected. The number of doses will be fewer and the reaction less severe. Until then, we are using the best products on the market and feel that it is well worth while. We believe that immunity to smallpox, diphtheria, whooping cough and scarlet fever should be required before school age, thus avoiding the loss of much valuable time after school routine starts.

CASE REPORTS

"ALLERGIC PNEUMONIA*"

A POSSIBLE PRE-PNEUMONIC CONDITION

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When an individual comes in contact with an offending protein by inhalation, ingestion, hypodermic injection, intradermal skin tests, or apparently at times to heat or cold ("physical allergy") a reaction takes place and the individual becomes hypersensitive. Allergic shock is now considered a pathological and clinical entity, and in this state there is a fundamental change in the body functions.

Moon and Kennedy pointed out that congestion and edema with capillary hemorrhage and concentration of blood were found regularly in shock. The two predominating symptoms in this condition which are of interest to us in this connection are congestion and edema of the respiratory organs. Cole and Kornes report a case of generalized urticaria when the edema spread through the mucosa of the bronchi to the lungs. Waldbott has evidence that the pathology of the lungs in allergic shock is caused by pulmonary edema. Macdermid has shown that infectious processes may come from these hemorrhagic edematous areas in the lung due to shock.

It is only reasonable to suppose that these edematous areas are subject to inflammatory changes with all the symptoms of edema of the lung such as sudden onset with pain and oppression in the chest, full pulse, air hunger, cyanosis, dyspnea, rapid breathing, copious frothy and blood streaked sputum, and constant cough with pulmonary rales. These symptoms may continue for hours or days or may terminate in death.

Graeser and others state that in any patient with an acute onset of infection with symptoms referable to the pulmonary system, and with rusty or blood streaked sputum which may or may not at first contain pneu-

*Presented before the Presbyterian Hospital, Denver, staff meeting on February 14, 1936.

mococci, a presumptive diagnosis of pneumonia should be made. See how in a general way these symptoms compare with edema of the lungs from allergic shock.

Waldbott reports two cases of severe allergic shock following the injection of extracts of cotton seed oil and horse hair. In one case eight and in the other twenty-four hours after injection, fever, rales in the lung and areas of impaired percussion developed. The clinical picture of a low grade bronchopneumonia followed which lasted three or four days.

A similar condition followed the taking of an aspirin tablet in a patient with asthma. In this case pulmonary symptoms developed about eight hours before the pulmonary infection arose. The pneumonic process lasted four days. Whether these conditions developed from a primary allergic edema of the lungs or a localized atelectasis from a plugging off of small bronchi by mucus is uncertain.

Macdermid reports a case of an asthmatic individual in whom an injection of horse serum was followed by pneumonia and death. At autopsy hemorrhagic areas were present throughout the lung and were associated with bronchopneumonia.

The following case is taken from my records:

CASE REPORT

A female, aged 46, short, stout and twenty pounds overweight, had had pneumonia, influenza, tonsillitis, pleurisy, hay fever and asthma. She also reported shortness of breath on exertion, occasional swelling of hands, feet and face; she was constipated. There had been no hay fever or asthma for five years. Her mother and maternal grandmother died of tuberculosis. Heart, lungs, and urine were normal. Blood pressure, 106 over 70. She suffered six or seven colds each winter.

I began immunizing both her and her husband with mixed cold vaccine. The first four injections of 2, 4, 8, and 12 minims at intervals of five or six days were not followed by reactions. On account of absence from the city the next injection of 16 minims was given twenty-six days later.

Before the last injection the chest and heart were examined and found normal. Temperature was normal and the patient felt fine. Nine hours later at 8 p. m. the patient had had a chill and was in a state of collapse. Face, hands and neck were edematous, extremely cyanotic, respiration was difficult and painful and there was a dry unproductive cough. Breathing was not asthmatic; respiration, 36; pulse, 120 and full; temperature, 97.8°. Rales were present throughout the entire chest and there was impaired resonance in lower right lobe.

Four hours later at midnight, temperature was 103°; respiration, 40; pulse, 130. Distinct dullness was evident over the lower right lobe. Eight hours later at 8 a. m. there was copious expectoration of bloody, frothy mucus, rales were audible over entire chest; temperature, 102; respiration, 36; pulse, 120; still cyanotic. That night at 8 p. m., temperature was 101; respiration, 28; pulse, 100; cyanosis, beginning to disappear; dullness over right lower lobe was not so pronounced; rales were still heard over the entire chest.

This condition lasted with decreasing severity for three days. The fifth day the patient had recovered except for exhaustion.

During the first twelve hours on account of the area of consolidation, the rales, bloody sputum, rapid and painful respiration, a diagnosis of pneumonia was made. During the next twelve hours, bearing in mind the subnormal temperature preceding the onset, and the knowledge of the injection nine hours before the collapse, the diagnosis was changed to pulmonary edema caused by an allergic shock from an overdose of vaccine.

The shortness of the attack and the rapid recovery would tend to bear out the last diagnosis.

In any case with pneumonic symptoms in an allergic or asthmatic individual, look for a subnormal temperature before the usual pneumonic rise. Look for amelioration of symptoms when a productive cough is established.

If a laboratory is available, look for a low leucocyte count with concentrated blood and a high hemoglobin index. If in addition to this, the disease runs its course in four to six days, both you and the patient may be thankful, for he may have had what can be called a "sterile allergic pneumonia."

MENINGISMUS AS THE PREDOMINANT SYMPTOM OF ACUTE GANGRENOUS CHOLECYSTITIS*

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The clinical picture of many pathological disturbances of the aged is often associated with bizarre and unusual symptoms. Particularly is this true of cholecystic disease in the elderly individual. A paucity of information, however, is available concerning the

onset, course and treatment of gallbladder conditions in the latter decades of life. The occurrence of meningismus as the predominant symptom of acute gangrenous cholecystitis in an elderly patient seems to be of sufficient interest to warrent recording. Extensive review of the literature has failed to reveal a case of similar nature.

CASE REPORT

Mrs. H. S., white female, aged 69, was first seen at the office on July 15, 1935, with a chief complaint of frequency and burning on urination.

The past history was irrelevant except for several significant facts. She had complained of "stomach trouble" for the past thirty years. Her symptoms consisted of flatulence, eructation, and qualitative indigestion. There had been frequent pain in the epigastric region, not referred and present one or two hours after meals. This pain was usually relieved by food or soda. Gastro-intestinal study with x-rays had been performed in a neighboring city fifteen and eight years respectively prior to present illness. A diagnosis of pyloric spasm of unknown etiology and visceroptosis was made on each occasion. A gastric test meal in 1927 revealed a hyperacidity. No study of the gallbladder was made at either examination.

She improved when placed upon a modified ulcer regimen, although on numerous occasions gastric lavage was required for relief of acute symptoms, such as pain and vomiting.

Seven years before (1929) she developed a marked depressive psychosis, precipitated by her illness, and was under constant medical care for three years.

Menopause occurred at 47 and was likewise associated with severe depressive symptoms.

The only pregnancy was a normal boy, who died at the age of three with tuberculous meningitis. Thorough study of the patient and her husband at that time revealed no tuberculosis.

The onset of the present illness was July 15, 1935, when the patient first noticed chills, frequency and burning on urination. The temperature and pulse were normal and physical examination was essentially negative. A catheterized specimen of urine showed 3 plus pus cells in clumps and a B. coli infection. A diagnosis of cystitis was made and treatment instituted.

She became almost symptom-free until July 23, one week later, when the urinary symptoms recurred. The temperature and pulse were again normal. Severe pain was present in the right costo-vertebral region, referred along the right ureter and right thigh anteriorly. The urinalysis revealed 2 plus albumen, 3 plus red blood cells and 3 plus pus cells, with many hyaline casts. A diagnosis of acute pyelonephritis was made at that time.

The following day, July 24, the symptoms became more acute and the patient was hospitalized. The temperature was 101° F. and pulse 118. She had had no more chills; however, the pain and urinary symptoms were aggravated. A cystoscopic examination was advised, but the husband insisted that this be postponed until the following day.

July 25, the patient became stuporous, and a coma rapidly developed. She failed to respond to stimulation. A catheterized urine specimen was greatly improved with only 2 plus cells present and otherwise negative. The temperature was 102.5° F., and pulse 112. The leukocytes numbered 12,850, with 85 per cent polymorphonuclear cells. Moderate rigidity of the neck was noticed, and the Kernig and Babinski phenomena were slightly positive. Moderate abdominal distention was present, but no other intra-abdominal disturbance was noted. Due to the critical condition of the patient and the improvement in the urinary findings, cystoscopy was deferred.

On July 26, the Kernig, Babinski and Brudzinski signs were all present. The knee jerks were hyperactive and the abdominal reflexes were absent. Marked opisthotonos was noted. The heart and lungs were essentially negative. Ophthalmoscopic examination was negative except for moderate arteriosclerosis of the retinal vessels. There was no jaundice. The abdominal distention became more pronounced and difficult to control by enemata. The temperature on this day was 101° F., pulse 102, and respirations 28 per minute. The white count was 27,900, with 98 per cent polymorphonuclear cells, 60 per cent of which were immature forms.

A spinal puncture was performed. The pressure of the spinal fluid was 90 mm. of water, it was clear and the cell count was reported as 12 per cu. mm.

On July 27 the coma was still present. The temperature was 102.5 and pulse 112 and weak. A dulness was noted in the right upper quadrant and a friction rub was audible over this area. A suggestion of a mass below the right costal margin was present. The liver was not palpable. A cystoscopic examination was performed on this day and the right ureter catheterized. The urinalysis was negative except for an occasional pus cell. In view of the abdominal findings and the negative urine and spinal fluid reports, an exploratory laparotomy was advised.

Under 0.5 per cent procaine hydrochloride infiltration anesthesia, a high right rectus incision was made. The abdomen was explored with difficulty, due to the critical condition of the patient and the lack of relaxation. A large gallbladder presented into the incision. It was the size of a large pear, about five inches (12.5 cm.) in length and 3 inches (7.5 cm.) in diameter at the fundus. The entire fundus was gangrenous and very friable. Numerous recent as well as dense adhesions were present, extending from the gallbladder to the stomach and duodenum. A localized peritonitis was present and the stomach and duodenum appeared normal.

The gallbladder was opened and nearly 250 c.c. of dark inspissated bile removed. No stones were present in the gallbladder or common duct. The fundus of the gall bladder was quickly resected and the remaining gall bladder stump closed with two purse-string sutures about a rubber drain. The incision was closed in layers. A pathological diagnosis of the tissue removed later confirmed the diagnosis of gangrene of the gallbladder.

A Wangensteen duodenal drainage was instituted and concentrated glucose intravenously and normal saline by hypodermoclysis were given as on previous days. The postoperative course showed little change from the previous condition. The coma and meningeal signs persisted. The abdominal distention was controlled by the Wangensteen drainage and it was possible to remove the duodenal tube on the second day. There was no vomiting. The drainage of bile from the drainage tube varied from 100 to 125 c.c. a day.

A spinal puncture was repeated on the second and third postoperative days. The fluid remained

at the previous level, escaping from the needle in a jet. The cell count was 8 and 10 cells per cu. mm. respectively. A culture was taken and was reported negative. Careful examination revealed no tubercle bacilli.

On the evening of the second day the temperature rose to 104.5° F. (rectal), and the pulse was 124. The temperature on the third day was 106.4° F. and the patient expired that night.

Permission for a complete necropsy was denied and only the abdomen was examined. The remaining portion of the gallbladder was still inflamed with numerous yellowish-white patches scattered throughout the wall. The cholecystostomy tube appeared to be functioning well. The stomach and duodenum revealed no recent or healed ulcer. The peritonitis had extended, involving the entire upper abdomen, the organs of which were covered by a tenacious plastic exudate. The remaining organs were essentially negative.

Comment

This case presents a very confusing diagnostic picture. There is no doubt that a chronic cholecystitis had existed for a number of years and had been undiagnosed. The association of urinary disturbance and gallbladder disease has been noted by various observers. Carlson and McGrath believe the kidney is frequently the source of infection which is conveyed to the blood stream with secondary infection of the gallbladder. It is possible that such may have been the case; however, the reverse seems perfectly tenable. The possibility of tuberculous meningitis, brain abscess and encephalitis were considered. However, the age of the patient, rapid onset and course of the disease, the absence of focal signs and the negative spinal fluid analysis rather clearly pointed to a diagnosis of general toxemia and meningismus due to acute phlegmonous cholecystitis.

Conclusion

A case of acute phlegmanous cholecystitis, with meningismus as the outstanding symptom, in an elderly individual is presented because of the unusual occurrence and difficult diagnostic picture presented.

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Despite its severe symptoms, arachnidism (black widow spider bite) is, in the majority of cases, a self-limited condition, and generally clears up spontaneously within a few days.—California and Western Medicine.

WOMAN'S AUXILIARY

ARAPAHOE COUNTY

In March the Arapahoe County Medical Society and its Auxiliary united in a joint meeting at the spacious home of Dr. and Mrs. Catron of Cherry Hills. After a fried chicken dinner at 7 p. m., sponsored by the doctors, the guests, numbering over fifty, were entertained by Dr. W. W. King, President of the State Medical Society, who gave a most delightful paper on "The Doctor in Politics." Mr. Harvey Sethman, Secretary of the State Medical Society, spoke on current legislation. Little seven-year-old Roy Fling, who broadcasts over the radio, played on his accordion, and Miss Madeline Studebaker, a pupil of Mrs. Gilmore of the Lamont School, read several selections.

DENVER COUNTY

The auxiliary to the Denver County Medical Society held its regular monthly meeting on Monday, April 20, at the Denver General Nurses' Home.

Mrs. Nancy Hartford graciously gave a very interesting book review entitled "Timothy Square" by Mrs. Wiggins. Vocal selections were given by Mrs. Nina Thomson, accompanied by Mrs. Louise Klodt.

Following this, tea was served by a committee of eighteen with Mrs. Philip Allen as chairman.

It is with deep regret we announce the death of two of our cherished and beloved members who died this past week, Mrs. Saling Simon and Mrs. H. D. Ulmer.

MRS. CLEVELAND WOODCOCK.

STATE BOARD MEETING

A meeting of the Executive Board of the Auxiliary to the Colorado State Medical Society was held on Wednesday, April 1, at the home of the president, Mrs. C. A. Ringle, in Greeley. A lovely luncheon at 12:30 was served by the hostess and the business meeting followed.

A very good attendance made the meeting very interesting as this is the first time this group has met since the Board meeting in Estes Park last September, following the annual meeting. Reports from officers and standing committees showed that much has been accomplished this year and things are in good shape for the National Meeting in Kansas City.

During the meeting a notice from a Whittier, California, newspaper was read, telling of the death of a past president of Colorado State Auxiliary, Mrs. H. A. Smith, formerly of Delta.

Among those attending were Mesdames C. A. Ringle, C. E. Bennell, W. P. Allen, and N. A. Madler of Greeley; Mesdames C. H. Platz, G. E. Garrison, and F. A. Humphrey of Fort Collins; Mrs. John Andrew of Longmont; Mesdames T. Mitchell Burns, George Miel, R. G. Smith, George P. Lingenfelter, John Amesse, John A. McGrew, Leonard Crosby, H. J. Corper, George Gillen, W. W. King, Arnold Minnig, and Harvey Sethman, all of Denver.

Mrs. John Fuqua, President of the Weld County Auxiliary, has been seriously ill and could not attend, but sent a message. Illness and distance kept many members of the Board away.

Chest Radiography

In the issue of March 7, 1896, Journal of the American Medical Association, under "Miscellany," appeared the following:

"Roentgen Photography—. The surgeons of Vienna and Berlin believe that the Roentgen photograph is destined to render inestimable services to surgery. Case after case is reported where unsuspected formations were revealed by the photograph, indicating slight operations which restored patients to health and cured deformities. Half an hour is the shortest exposure possible, and most require an hour. The electric apparatus required is so expensive, $100 and upward, that few surgeons can use it yet in their private practice." This was within the first year following Roentgen's epochal discovery.

Now exposures are in many cases limited to a fractional part of a second, the apparatus costs several thousands of dollars, and very many surgeons, general practitioners, internists, dentists and various specialists own and operate x-ray equipment.

The Radiological study is now generally admitted to be a paramount procedure in chest diagnosis. In cooperation with internists and pathologists, the Denver Radiological Club soon will begin to examine Denver high school students for pulmonary tuberculosis. This survey will be under the direct supervision of Dr. Cicero Lincoln, and is sponsored by the Denver Tuberculosis Society. Some of the criteria and procedures for chest interpretation are the following:

Abnormal shadows in the upper quadrants (aside from tumor) shall be classed as tuberculous until proved otherwise.

Abnormal shadows in the lower quadrants should be classed as non-tuberculous until proved otherwise.

Cavities in the upper quadrants may close, leaving only fibrous and calcium tissue. Cavities in the lower quadrants give a very grave prognosis because of lessened drainage.

Chests should preferably be studied immediately upon arising in the early morning before the patient clears the lungs and cavities by coughing.

Central infected areas completely surrounded by healthy lungs are best detected by the x-ray.

The disease bcomes arrested or healed by fibrosis and calcification (scarring). The x-ray shows the extent by shadow density, chest wall contraction, diaphragmatic excursion and mediastinal displacement.

Fluoroscopic examination offers some evidence to aid in diagnosis. Brilliancy of illumination upon coughing and deep inspiration, extent of diaphragmatic excursion, degree of pleuro-diaphragmatic adhesions, intercostal separation and chest wall contraction are depicted as a moving picture. The cardiac condition, which enters largely into the estimation of prognosis, can be studied to advantage. Properly made radiographs are, however, the final criterion.

The x-ray has truly revolutionized the diagnosis of pulmonary tuberculosis and has aided in the management of, and in following through, the disease.

The Rocky Mountain Mid-Summer Radiological Conference will be held August 4, 5 and 6, 1936, in Denver.

Truly it is better to cure diseases than to foretell their course, but this is unfortunately not always possible.—Hippocrates.

Hay fever cures are consistent anyway. It isn't a fever and isn't caused by hay and they don't cure it.—San Francisco Chronicle.

In pneumonia the disease is in the lungs, but the danger is in the heart.—Lindsay.

It is better to have a less accurate diagnosis and a more favorable prognosis.—Arthur Curtis.

Greater curvature lesions of the stomach are always malignant.—New England J. of M.

Medical Organization

Last Call for Kansas City!

SURELY you are going to the A. M. A. meeting at Kansas City——

Then why not plan to go by rail, arranging your departure to coincide with one of the special Pullmans being arranged by your State Society?

Several specials, from Denver on the north, Grand Junction on the west, perhaps from other points, will meet at Pueblo at the supper hour of Sunday, May 10, where they will be united in a Missouri Pacific train direct to Kansas City, arriving there at breakfast time Monday morning, May 11, right at the "opening gun" of all the big convention activities. At least three special Pullmans will be in this group, perhaps more.

Another group of Denver and northern Colorado members wishing to travel direct rather than through southeastern Colorado, will unite in a special Pullman on the Union Pacific, leaving Denver either Monday or Tuesday.

Make reservations for berths on these Pullmans at once, to be sure of a place. Also, let one of the following men know your plans—they are in charge of special Pullman arrangements for the Society in their respective districts:

Denver: Missouri Pacific Special; Dr. John W. Amesse, 624 Metropolitan Bldg.; Union Pacific Special, Dr. T. E. Beyer, 418 Majestic Bldg.

Colorado Springs: Dr. D. A. Vanderhoof, Exchange National Bank Bldg.

Pueblo: Dr. Harold T. Low, Thatcher Bldg.

Greeley: Dr. N. A. Madler, Greeley Bldg.

Salida: Dr. George H. Curfman, Rio Grande Hospital.

Delta (and western Colorado generally): Dr. E. R. Phillips, Delta.

Otolaryngologists To Meet in Denver

COLORADO and Denver will be honored next month by the meeting of the American Laryngological, Rhinological and Otological Society. Dr. Thomas E. Carmody of Denver is president of the national organization this year.

The meeting will be held May 18, 19 and 20, at the Brown Palace Hotel. A large number of prominent otolaryngologists from all parts of the United States and Canada will attend, and Colorado otolaryngologists are doing everything in their power to make the session a success.

While some of the papers will be technical and of interest primarily to those in highly specialized fields of otolaryngology, a large proportion of them will be of interest to all members of the medical profession.

All members of the medical profession are cordially invited to attend.

1937 Plans Are Well Received

PLANS projected last fall by the House of Delegates for a joint meeting of Rocky Mountain medical societies in Denver in 1937 have been informally presented in Utah and in the Texas Panhandle recently and in both regions have received favorable attention.

Members of the Invitation Committee and the Executive Secretary visited Salt Lake City and Ogden late in March, where they were entertained by the officers of the Utah State Medical Association and the Salt Lake County Medical Society. Formal action by the Utah Association must await the annual meeting of its House of Delegates in September of this year, but those who discussed the plans predicted the wholehearted cooperation of that association. It was also evident that, should the plans materialize, Salt Lake City will wish to act as host for the second Rocky Mountain meeting.

Enthusiastic reception was given the 1937 idea at the meeting of the Panhandle District Medical Society at Amarillo, Texas, in mid-April. Northwest Texans feel closely akin to the physicians of southeastern Colorado, and are frequently in our midst for summer vacations.

All are familiar with the enthusiasm displayed at the Lander meeting of the Wyoming State Medical Society last August. Formal action on the proposal will probably be taken at the Wyoming Society's Cody meeting this summer. In May, just prior to the American Medical Association session, the Rocky Mountain plan will be presented to the New Mexico Society at Carlsbad

Until representatives of these societies have "sounded out" their own memberships to gain definite majority wishes, details for the 1937 meeting cannot be arranged. Tentative indications are that the meeting would be best held in early or mid-July, that it should be either a three or a four-day meeting, partly didactic and partly clinical, with ample opportunity for fraternalism.

Committee members feel that no physicians resident in the host city should appear on the program, but that speakers should represent fairly

equally all participating states, with the addition of a number of outstanding guests from other parts of the country. Well-planned discussion of real common problems of these states, economic and organization as well as scientific, should be included. It seems unlikely that the meeting should replace the Annual Session of the Colorado Society, and the question of replacing the annual session of any other society should be decided individually by each participating state. Most of those who have discussed the matter feel the meeting should be financed, at least the first time, by a nominal registration fee, the most generally suggested figure being two dollars. These, and many other questions, must be answered by the participating states before definite plans are laid.

As important points looking forward to the summer of 1937 are developed, they will be reported in these columns, and the Committee will report in full detail at the Annual Session in Glenwood Springs next September.

LIBRARY NOTES

Books Purchased From the Colorado State Medical Society Fund, Sept. 1, 1935, to Dec. 1, 1935

Boyd, William. Surgical Pathology. 1934.

Bickham, W. S., and Smyth, C. M. Operative Surgery. v. 7. 1933.

Cabot, Hugh. The Doctor's Bill. 1935.

Clapp, C. A. Cataract, Its Etiology and Treatment. 1934.

Eliason, E. L. Surgical Nursing. 4th ed. 1934.

Kitchin, T. D. The Doctor and Citizenship. 1934.

Lewis, Sir Thomas. Clinical Science. 1934.

Medical Profession and the Public. 1934.

Imperial Cancer Research Fund, 11th Scientific Report. 1934.

(The list of books purchased from Dec. 1, 1935, to Feb. 1, 1936, was published on Page 107 of the February, 1936, issue of Colorado Medicine.)

Books Purchased From the Colorado State Medical Fund, February 1, 1936, to April 1, 1936

American Medical Association. Laws and Board Rulings Regulating the Practice of Medicine in the U. S. of America and Canada. 1935.

Bodansky, Meyer. Introduction to Physiological Chemistry. 1934.

Brailsford, J. F. The Radiology of Bones and Joints. 1935.

Bull, H. C. X-Ray Interpretation. 1935.

Davidson, Maurice. A Practical Manual of Diseases of the Chest. 1935.

Callender, C. L. Surgical Anatomy. 1935.

Geissendörfer, Rudolf. Thrombose und Embolie. 1935.

The Harvey Society of New York. The Harvey Lectures, 1934-1935. Ser. 30.

Harrison, B. J. M. A Textbook of Roentgenology. 1935.

Naegeli, Th., and Schulte-Tigges, H. Die künstliche Zwerchfellähmung bei der Behandlung der Lungentuberkulose. 1935.

Weiss, Samuel. Diseases of the Liver, Gall Bladder, Ducts and Pancreas. 1935.

Wigglesworth, V. B. Insect Physiology. 1934.

MEDICAL SOCIETIES

CHAFFEE COUNTY

The Chaffee County Medical Society met March 21 with members of the Fremont County Medical Society as guests. A paper on "The Value of Blood Transfusions" was read by Dr. Howard Smith of Salida, and the discussion was led by Dr. E. I. Dobos of Denver. Other guests of the Society included Drs. J. A. Philpott, Carl Waggener and Jim Lewis of Denver. Dr. Lewis showed a very interesting case of dermatitis, self-induced in a psychoneurotic patient. The meeting pas preceded by a dinner at the D. & R. G. W. Hospital.

L. E. THOMPSON,
Secretary.

* * *

DELTA COUNTY

The regular meeting of the Delta County Medical Society was held Friday evening, March 27, 1936. Dr. Lawrence L. Hick read a very interesting paper on "Gall Bladder Couditions."

E. R. PHILLIPS,
Secretary.

* * *

LARIMER COUNTY

Dr. Frank R. Spencer of Boulder spoke on "Acute Suppurative Otitis Media and Its Complications" at the regular meeting of the Society held April 1, at the Northern Hotel in Fort Collins. Dr. Spencer also discussed the diagnosis of glaucoma. The meeting was preceded by a dinner.

THAD C. BROWN,
Secretary.

* * *

PROWERS COUNTY

The Prowers County Medical Society met in its regular session Tuesday eveniug, April 7, at the Ben Mar Hotel, Lamar, with a good attendance. An excellent program was provided in the form of a symposium by Drs. Herbert A. Black, Carl W. Maynard, and George A. Unfug, all of Pueblo, on "Cancer of the Female Genital Tract." The absence of Dr. Likes was felt, as he left April 2 for several months' postgraduate work in Vienna.

C. T. KNUCKEY,
Secretary.

* * *

PUEBLO COUNTY

The Pueblo County Medical Society held their first April Meeting at the Vail Hotel in Pueblo on April 7. Dr. Jesse W. White was the principal speaker of the evening. His subject was "Thyroid and Pregnancy."

AMERICAN BOARD OF OPHTHALMOLOGY

The 1936 examinations will be held in Kansas City, May 11 (at time of meeting of A. M. A.), and New York City in October (at time of meeting of American Academy). All applications and case reports must be filed at least sixty days before date of examination. For information, syllabuses and application forms please write at once to Dr. Thomas D. Allen, Assistant Secretary, 122 South Michigan Avenue, Chicago, Illinois.

Wyoming Section

MAY
1936

May Day: Vaccination Day

LAST year we editorially advocated the vaccination of all children against smallpox and diphtheria on May first.

The Medical Societies of Sheridan and Natrona Counties have done a wonderfully fine work in preventive medicine in the last year. Other societies ought to join in this forward movement and make arrangements similar to those used in Casper and Sheridan. We all agree that the ideal arrangement is to have the family physician vaccinate his own families, but under the present economic conditions there are many families who do not have the funds to pay the usual fees and the Medical Society rendering this service makes it possible to charge twenty-five cents for smallpox and fifty cents for diphtheria toxoid. Dr. Anderson of our State Health Department and Mrs. Ethel Harris, State Nurse, are doing a fine work in the rural communities.

If every child is protected against smallpox and diphtheria by the time he is one year old, in a few years these diseases will be "as scarce as hen's teeth." E. W.

One to One Hundred

EIGHTY-SEVEN years ago the California gold rush was exciting this young nation. At the time of our Civil War and up until 1880, there had been a series of Indian wars in the western country—especially in Colorado, Wyoming, Montana and Idaho. During these years from 1849 to 1880 the Indian question was one of the chief topics of conversation and fear, but the development of this western country was made possible by the gold hunter and fur trapper.

The average person reading our western history arrives at the conclusion that a great many lives were lost in the Indian fights, but when we compare that loss of life with the lives taken by auto accidents—the Indians were pikers. In the hottest of the fighting with Red Cloud and his warriors, along the eastern flank of the Big Horn Mountains in Wyoming in the late sixties, Fedderman's fight stands out with the largest loss of life.

The same was true when Custer and his company were killed near Crow Agency, Montana. These two battles stand out as the most fatal Indian engagements in the West. It is true that many, many lives were lost in the entire western country when the white men were taking the land where we now live. Men did not, however, cross these regions in small bodies as a rule. They formed wagon trains of from two to five hundred persons and were thus sufficiently strong to stand off attacks of Indian war parties.

To appreciate the Indian side of the question one must put himself in the place of the Indian—defending his home land from invaders who would destroy the greatest food supply any people ever had in North America, the great buffalo herds. You and I would fight if some race tried to take our food and land away from us. Yet, as mentioned above, compared to the loss of live and injury caused by careless drivers of automobiles, the Indian was a piker. At the time of the hardest fighting around Fort Kearney during the last part of the sixties the loss ran an average of about one man a day for the two years this fort was maintained—or about three hundred and fifty men each year. During 1934 thirty thousand persons were killed, and one million two hundred fifty thousand injured by autos in the United Staes. In other words auto accidents take a toll of one hundred men each day, while the Indians only took the life of one.

All of which goes to show that fear can not control our actions when at the wheel. Not only is the mental and physical suffering beyond calculation, but the roads of this

country are strewn with wrecks of human beings permanently disabled.

Let the doctors set the example of sane, careful driving in Wyoming. E. W.

Submit Your Paper For Cody Meeting

DATES for the Cody meeting of the Wyoming State Medical Society have not yet been definitely chosen, but will be announced in the next (June) issue of Colorado Medicine.

The Program Committee can still use several papers written by Wyoming members. Kindly send the title of the paper you wish to present to the Secretary, Dr. Earl Whedon, Sheridan, Wyo., so it will arrive not later than May 15. Sometimes we have heard the statement: "I have never been invited to prepare a paper." This invitation is to YOU!

TORSION OF THE SPERMATIC CORD*

LOUIS G. BOOTH, M.D.
SHERIDAN

After reviewing some of the more recent literature regarding the incidence of torsion of the spermatic cord, two facts are noted: First, that there is considerable discrepancy concerning the actual number of cases reported; and second, that the actual incidence is considerably greater than the reported incidence. O'Conor in 1919 was able to collect only 174 cases in the entire literature. Kretschmer in 1930 states that his case was the 135th reported. Marquardt in January, 1935, stated that he could collect 124 cases in the literature in 1925 but that the number of cases reported has more than doubled since that time—which seems to connote greater diagnostic acumen and probably interest in reporting those cases found. A considerably larger number have been diagnosed clinically but have not been substantiated at operation. The increasing number of cases diagnosed and the increasing claim of this clinical entity to be included in the differential diagnosis of inguinal hernia and other inguinal tumors justifies the preparation of this paper.

Etiology

In order to associate the anatomy and pathology, a brief resume of the developmental anatomy of the testis and associated structures is given:

In early fetal life the testes occupy a retroperitoneal posterior abdominal position, and each is attached to the primitive kidney, the mesonephros, by a peritoneal fold, the mesorchium. The gubernaculum testis, a slender band, extends from the skin of the groin, later to become the scrotum, to the inguinal crest, an antero-lateral peritoneal fold connecting with the mesonephros, hence indirectly to the testis. As the fetus becomes older this band, later consisting of smooth muscle fibers, grows relatively more slowly than the surrounding structures, and also probably shortens some by contracting of the muscle fibers, resulting in a drawing downward of the testis into the scrotum, following the evaginated portion of the peritoneum formerly overlying the testis. The other layers of the abdominal wall are also pushed forward forming the tunics, fasciae and musculature and are analogous with the same structures of the lower abdominal wall. Hence in the normal fetus of eight or nine months prenatal age one sees the testes in the scrotum and the peritoneal evagination only patent in its peripheral portion, namely that overlying the testicle and epididymis and forming the visceral and parietal tunics. The gubernaculum testes and the mesorchium continue functionally to anchor the testes and epididymis quite firmly in the scrotum preventing the occurrence of torsion. Hence one sees that torsion of the spermatic cord would probably only occur in individuals having faulty development of these structures.

The usual explanation offered of torsion is contraction of the cremasteric fibers ex-

*Read before the Wyoming State Medical Society, Lander, Wyoming, August 13, 1935.

tending down on the cord from the internal oblique muscle to the testes. One would conclude then that the degree of torsion would depend upon the degree and the obliquity of the encircling cremasteric fibers. Two complete circles or 720 degrees seem a greater torsion than the direct pull of this muscle could accomplish since these muscle fibers extend inferiorly and towards the mid-line, then swing upward to blend with the reflexed inguinal ligament. Torsion is not always in this direction. It is possible that contraction of the descending fibers would cause a counter-clockwise torsion and that a contraction of the upward swinging fibers would cause a clockwise torsion accounting for the exactly opposite twisting of the cord found clinically. Another possible explanation and one seeming to have more application in the case reported below might be that these fibers running in a longitudinal direction over a redundant cord might produce a volvulus-like twisting, simulating volvulus of the intestine in which a loop of bowel twists around its mesentery. This latter explanation seems most likely in those cases where the torsion is great.

The predisposing causes are listed as a mobile testis and cord and a redundant scrotum, both of which in turn depend upon various degrees of cryptorchidism or other faulty development of these structures. The immediate causes are trauma and muscular effort. By far the greatest age incidence is between 15 and 30 years.

Signs and Symptoms

Usually there is an acute onset of severe nauseating pain in groin and scrotum with occasional vomiting. Abdominal distention and shock may be present in varying degrees. The pulse often is rapid. The temperature rarely exceeds 101° F. The affected testis may be drawn upward due to shortening by twisting. If the testicle is in the canal one may see all the symptoms of strangulated hernia except obstipation and fecal vomiting. The scrotal mass may be two or three times normal size and very tense, having an almost board-like hardness and is excruciatingly tender. A mass extending through the inguinal canal makes the differential diagnosis of strangulated hernia almost impossible. In general it may be said that the systemic symptoms—increased pulse, fever, high leucocyte count, and malaise—are not consistent with the severity of the local findings.

Differential Diagnosis

Epididymitis, strangulated hernia, acute orchitis, neoplasm, and acute inguinal adenitis in young boys must be differentiated. Lifting of scrotal mass relieves epididymitis and aggravates the pain of torsion; this sign combined with the less painful onset of epididymitis and a history of lack of infection usually makes the diagnosis. Strangulated hernia occurs more typically in later life. Gentle manual twisting of the mass may relieve or aggravate pain depending upon whether torsion is increased or decreased, and has no effect on hernia. Orchitis is clinically rare except as a complication of the mumps or trauma or syphilis, the onset in the latter case is less acute and the history in all three may suggest the diagnosis.

Prognosis

Eighty-six per cent become atrophic and may disappear entirely or become gangrenous if not relieved immediately—that is, within two or three hours after onset. Most of the older texts advise orchidectomy, basing this advice on the frequency of atrophy even though operated before actually gangrenous. Yet of course the conservative treatment is immediate operative relief with orchidopexy unless the testis is actually gangrenous, for if atrophy does occur this is essentially a natural orchidectomy and the small per cent of the cases saved make conservative treatment imperative. After twenty-four hours, operation is indicated only to relieve pain or prevent gangrene.

Surgical Pathology

Plastic exudate simulating fat necrosis may be observed beneath the external oblique fascia in case of acute onset. The veins of the cord are dilated or flat, depending on degree of occlusion; the artery is patent and dilated. The surrounding tissues are edematous if of acute onset and adherent and fibrous if chronic. O'Conor states that the torsion in acute cases is clockwise in 65 per cent of patients, which was interpreted as opposite to the direction of the pull

of the cremasteric fibers. Twist may be from one-half to two complete turns, and O'Conor states that the site of the twist is always in the free portion of the cord covered by the vaginalis which suspends the cord and testis. However, in the case reported below the vaginalis was patent higher than usual. Spontaneous cure may result if there is a deposition of lymph with adhesion formation following a subacute attack. Twist is usually single but may be double, simulating volvulus of the bowel with a whole loop involved.

REPORT OF A CASE

Only essential points bearing on the case are given in this case of an 18-year-old, well developed, single, high school student.

Present Illness: Rupture for past year, not incapacitating sufficiently to miss school or curtail activities. No truss had been worn, and patient had never seen a doctor. He had noticed a swelling in the right groin usually brought on by physical activity. Slight nausea and pain were the only symptoms noticed besides the tumor, which reduced itself spontaneously in the reclining position.

Immediate Complaint: Sudden swelling in right groin and scrotum, the latter being three times normal size, hard and very tender and extending to external inguinal ring. The patient was put in Trendelenburg position and constant pressure to mass gradually reduced the former size. Patient was put to bed without recurrence until the following morning when he was taken to the hospital and operated. Torsion of spermatic cord was diagnosed only at operation, the torsion not being in the scrotum, but just inferior to the external inguinal ring. There were two complete turns, counter-clockwise, and involving approximately a three-inch loop of redundant spermatic cord, swollen to the size of small bowel and resembling that structure very closely. The mechanism apparently simulated that of volvulus of the bowel with the mesenteric attachment the point of revolution. The gubernaculum was absent and there were no connective tissue bands holding the peripheral portion so that the loop of cord and testicle were free to rotate, lying within the tunica vaginalis—the latter being distended somewhat by clear fluid. The cord was a dark purplish color and swollen about two times normal size. Many small thrombotic appearing areas over the surface of the cord disappeared on reduction of the torsion and application of warm saline towels. In about twenty minutes normal color and circulation were restored. The attachment around which the torsion occurred was the connective tissue about 2 cm. below the external ring. Inasmuch as the vaginalis was patent and high and the external ring was more patulous than usual, a bilateral herniorrhaphy was done in addition to the orchidopexy on the right side. Left testicle seemed to have normal attachments to the scrotum. Patient was last seen after four months; there was no atrophy and the testicle seems to have no more than normal mobility. Recovery, uneventful.

Conclusions

1. Torsion of the spermatic cord should be included under the usual differential diagnosis of strangulated hernia and other acute or subacute inguinal tumors.

2. Incidence seems considerably more common than the literature would indicate.

3. Mechanism of torsion probably varies with the case and pathological anatomy.

4. A case having probable intestinal volvulus mechanism of torsion with operative treatment and no subsequent atrophy is reported.

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It is evident that spinal anaesthesia and restriction of fluids in combination may be capable of relieving anuria provided it is not due to long-standing disease or to blockage of ureters.—The Lancet.



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Colorado Hospitals MAY 1936

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DENVER

The importance of the record department of the hospital has been gradually but steadily increasing. Not many years ago even so important an event as a birth or a death was not recorded. One can imagine how meager the records of patients were. Today the measure of a hospital's usefulness is through hospital records. A hospital cannot function properly from an administrative and medical viewpoint without adequate provision for case records. In addition to this, the hospital has a moral obligation to its patients to make and preserve a history of their hospitalization. A record protects the hospital, the doctor, and the patient. It is composed of a complete history and physical examination, progress notes and summary, laboratory and x-ray work, operative record, doctors' orders, temperature and pulse chart, and nursing notes. It is a voluminous book of information which is valuable for teaching purposes, for research work, and for the care and cure of the patient. In the record room the records are assembled, reviewed, classified, and filed, and should be available at a moment's notice. There is a correlation of the Record Department with every other department of the hospital in the making of this record.

On admission of the patient the information given must be accurately recorded. The first step of the admission office is correctness. If the name is incorrectly spelled delay may be caused in locating the record at a later date. The record department must deliver out-patient and former hospital records to the admission office promptly. Daily admission cards should be given to the record room early the morning following entry of patients in order that this department may furnish essential information to doctors and to other departments.

After the patient has been admitted to the hospital, a complete history and physical examination should be taken within twenty-four hours. Many seemingly good reasons are given by the doctors as to why this cannot be given at once. The worker must not lose heart but remind him again and again until it is obtained. Frequent progress notes should be written and a summary or discharge note before the patient leaves the hospital. Tact and persistence are necessary to persuade the doctors to complete and sign their records promptly. Most physicians appreciate the value of a good record but dislike the paper work required to make one. Recently a doctor confided that he had many unfinished records in one hospital, but the worker said "all right" when he gave an excuse that he was too busy. He expected her to urge him to finish them. If the records do not have complete histories, progress notes and operative procedures, their value for medical research is greatly lessened. In preparing articles and books for publication or papers to be read at medical meetings and clinics, records must be searched for this material. The more detailed and complete the history of the case, the more satisfactory will be the data compiled. The same manner in which the staff doctor writes a record can the record serve him.

The surgical department plays an important role. An accurate record of all operations must be kept and the surgical procedure and findings dictated or written immediately upon the completion of the operation if the records are to be accurate. The preoperative diagnosis must be obtained before the operation. The operative schedule

*Presented before the Colorado Hospital Association, October 10, 1934.

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Murray (Lancet, 1935,1,303) reports the following results of its use:

Condition Treated	Recovered	Improvement	Slight or No Benefit
Acne	3 cases	21 cases	6 cases
Blepharitis	8 "	6 "	1 "
Furunculosis	25 "	14 "	- "
Carbuncles	3 "	1 "	- "
Others	12 "	14 "	2 "
Total	51	56	9

C. L. Dolman (Lancet, Feb. 9, 1935,306) reported successful results in 72 out of 81 cases of intractable staphylococcic infections with a series of injections of Staphylococcus Toxoid.

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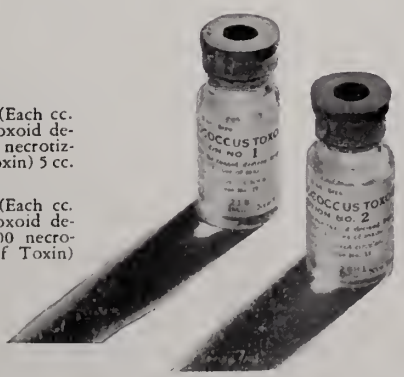
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MENTION COLORADO MEDICINE

must be delivered to the operating room promptly. Also, the record room must be notified of emergency operations, so that they may obtain the dictation from the surgeon and place it in the patient's record as soon as possible. This requires close correlation between the two departments.

The record department can furnish identification data to the business office and accounting department. Charts are needed to substantiate charges and to varify the date of discharge. In this way the patient is satisfied and the work made easier.

The laboratory, x-ray and dietary departments are likewise closely correlated. All reports should be promptly made and attached to the patients' charts during this period of hospitalization so they may be available for the staff doctors. When a number of reports accumulate on the floor and are sent to the record room, it takes time to look up the records and attach them to the proper charts, and the record room has no assurance that the doctors have seen the reports.

The social service department and record department should work in harmony. Social service can help the doctor in making a diagnosis and help in the medical care of the patient. If their notes are written on the record it increases the value of the record to the doctor, and he is better able to take care of the patient. These records must be quickly available. Many records are removed by the social service department in the course of a day. Each record removed must be charged to the department, and should be returned to the record room promptly in order not to impede the efficiency of the department and hospital in handling admissions, emergencies, and routine calls and requests by other departments.

The correlation of the nursing department and record department should be greatly stressed. We look to the nursing department for accuracy in making up charts so that when they are sent to the record room they will be complete in every detail The name, correctly spelled, and hospital number should be entered on every sheet of the patient's record. To increase the value of the record, more detailed nursing notes are required than the routine notes made in some hospitals. The record department is entrusted by the nursing department with the evidence that the doctor's orders have been carried out. In many hospitals the supervisor is held responsible for securing the physicians' signatures wherever required on the record. This is not an easy task and requires constant effort on the part of the supervisors and head nurses. Even then many records are sent to the record room incomplete. The record can in turn serve the nurse in making her case study.

To the administrative department, the record department is simply one of a number of departments which must run smoothly. The record must be promptly available at all times so as not to impede the efficient progress of daily routine. To the administration good records are the basis for estimating the efficiency of the staff as a whole as well as that of individual members. Clinical records reflect the character of their hospital. They form the basis for comparative study of data from other hospitals. They show hospital analysis other than financial. They account for complications showing whether they be the result of technic or materials used. They give the end results in a given operation. They are of value to the administrative department in lawsuits. A good record is the best weapon of defense. A complete record is of importance in filling out insurance papers for the patients, and the results shown by these reports may induce insurance companies to give private hospitals their cases if the results are satisfactory. Thus a complete and accurate record may be of great benefit to the administrative department.

The record room should be a place where the visiting staff, the house staff, the nursing department and medical students may come for study and research and where they may be made to feel that they are welcome.

It has been said that the relation of the record department to the other departments of the hospital is like parent and child. The child, the record department, cannot develop and grow without the assistance and cooperation of its parents, the other departments.

STATEMENT

Colorado Life Company

December 31st, 1935

ASSETS

Cash and Quickly Convertible Securities	$ 966,962.29
First Mortgage Loans	780,462.44
Real Estate	None
Stocks Owned	None
Policy Liens Within the Reserves	525,766.15
Collateral Loans (secured by high grade securities)	3,500.00
Net Premiums in Course of Collection	264,670.52
Other Admitted Assets	8,493.49
Total Admitted Assets	**$2,549,854.89**

LIABILITIES

Reserves for all purposes		$2,118,150.75
Borrowed Money		None
Paid Up Capital	$250,000.00	
General Surplus	181,704.14	
Surplus as to Policyholders		**431,704.14**
		$2,549,854.89

The market price of bonds owned by the Company was $32,181.33 in excess of the book value at which they are carried in this statement. None was in default as to principal or interest. Total interest in arrears (one day or more) on mortgage loans was only $1,198.80, being but one-twentieth of one per cent of the Company's total admitted assets. Of this amount $486.52 (over 40%) was paid during January.

The Company in 1935 was licensed to write insurance in nineteen states. The Company writes health and accident insurance as well as life.

RESULTS FOR THE YEAR 1935

Outstanding Insurance	$40,251,063.00
Gain during 1935	$ 2,223,226.00
Premium Income	$ 1,357,765.16
Gain during 1935	$ 112,661.20
Gain in Admitted Assets	$ 359,285.03

J. M. CAMPBELL,
Chairman of Board

STERLING B. LACY,
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★ *Laryngoscope 1935 XLV, 149-154*
Proc. Soc. Exp. Biol. and Med., 1934, 32, 241-245
N. Y. State Jour. Med. 1935, 35—No. 11,590

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★ Reprint of papers from N. Y. State Jour. Med. 1935, 35—No. 11,590; Laryngoscope 1935 XLV, 149-154. Proc. Soc. Exp. Biol. and Med., 1934, 32, 241-245. ☐

For my personal use, 2 packages of Philip Morris Cigarettes, English Blend. ☐

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PUBLIC HEALTH NOTES

Those who fail to recognize the progress of science are as much a hindrance to national health as are the very germs they claim do not exist.—Anon.

Surgeon General Cumming Retires

In the retirement of Dr. Hugh S. Cumming from the office of Surgeon General, United States Public Health Service, which he has so ably administered during the past sixteen years, a vacancy is created that will be difficult to fill, even in the corps of expert sanitarians. Few executives have been able to carry through to completion such a comprehensive program in the promotion of public health, involving as it has the enthusiastic cooperation of state and municipal departments.

Dr. Cumming's achievements in the development of an international concord on communicable disease have won for him signal honors, not only from our own government but from many foreign states.

Communicable Diseases in Rural Population

The mortality rate from typhoid, measles, whooping cough, and malaria was twice as great among the rural as among the urban population of Illinois in 1924, according to the State Department of Public Health. These diseases gave an aggregate rate of 14.6 for rural and 7.1 for urban population. The death rate among rural citizens for scarlet fever, diphtheria, tuberculosis, and infantile diarrhea ranged from 25 to 40 per cent higher than among the city population, giving an aggregate mortality rate of 84.9 per hundred thousand for the rural population and 60.6 for urban population. Pneumonia, according to the study, was the only infectious diseases which caused a higher mortality rate among those in urban than among those in rural districts, giving a death rate, respectively, of 72.8 and 65.5 per thousand of population.—The Diplomate. April, 1936.



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IN this matter of supports the profession is interested not alone in garments which are scientifically designed to alleviate or improve the specific conditions for which they are prescribed. Physicians are interested in such garments only if they fit accurately the individual patients for whom they are intended. For, without accurate individual fit, the scientific principles of design have no application whatever.

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BOOK REVIEWS

THE NEW PHARMACOPOEIA

U. S. P. Board Announces the Release Date and the Official Date for the U. S. P. XI

The new Pharmacopoeia, the Eleventh Revision, was available in December. This date had been fixed by the Board of Trustees of the United States Pharmacopoeial Convention to enable the publishers, the Mack Printing Company of Easton, Pennsylvania, to place all books on sale in all parts of the country simultaneously.

As directed by the U. S. P. Convention, the Board of Trustees has also fixed the date when the standards of the new Pharmacopoeia shall become officials, superseding the Tenth Revision. This date is June 1, 1936.

The Parathyroids in Health and in Disease. By David H. Shelling, B.Sc., M.D. The Johns Hopkins University and Hospital, Baltimore. Illustrated. St. Louis: The C. V. Mosby Company, 1935. Price, $5.00.

Dr. Shelling's book on the Parathyroids is a comprehensive and satisfactory study of these glands. Unlike the thyroid gland, which has had the benefit of extensive investigation for many years, recognition of the significance of the parathyroids is of more recent date.

The author in his review of the subject devotes chapters to the history, anatomy, pathology and physiology of the parathyroids. He discusses fully the parathyroid hormone, tetany and hypoparathyroidism; hyperparathyroidism and osteitis-fibrosa: the relation of the parathyroids to the other glands of internal secretion; the relation of parathyroids to Vitamin D, and the use and misuse of the parathyroid hormone. The indications and the contra-indications for parathyroidectomy are also fully considered.

The extensive study in preparing this book is revealed by the reference presented at the end of each chapter. For example, the contributing literature in preparing the chapter on "physiology" is represented by 157 references.

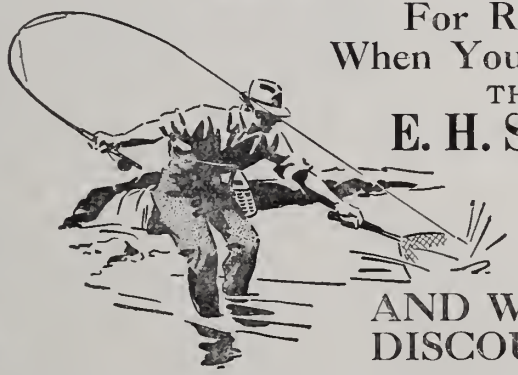
All this material has been molded together into an homogeneous whole so as to be equally of value to both the investigator and the clinician.

GEORGE F. NETHERTON.

Annual Report of the Surgeon General of the Public Health Service of the United States for the Fiscal Year 1935. U. S. Government Printing Office; Pages 158; cloth; 75 cents.

The sixty-fourth annual report of this Service, covering the one hundred and thirty-seventh year of its administration, the last report for Surgeon General Cumming, just retired, outlines world health conditions as well as those of the United States. Complete epidemiological data of the major communicable disease is supplied in this review of the past year, together with all pertinent information on measures devised in the prevention of the introduction of disease from abroad; on the medical inspection of aliens; on ordinances enforced for the limitation of the spread of infectious and contagious disorders in interstate traffic and on the investigation of public health problems such as those involved in cancer control, in the development of leprosy among children exposed to infection, in malaria, pellagra, Rocky Mountain spotted fever, poliomyelitis and

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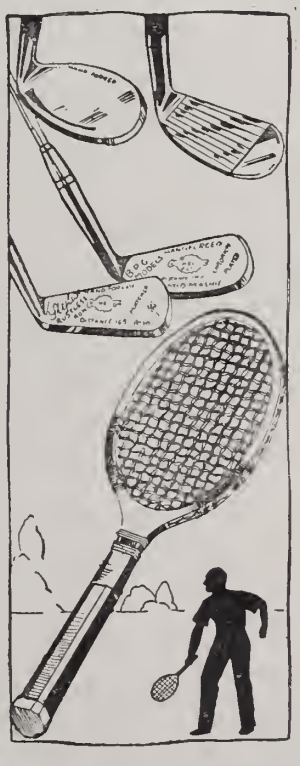
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many others. In connection with scientific research, it is noted that "there can be no truce in the warfare against disease. Each year brings new problems. Constant developments in the field of industry present additional problems in industrial hygiene; epidemics of communicable disease present new phases from time to time; and new developments in methods of preventing disease are evolved and must be evaluated. The outbreak of infantile paralysis in North Carolina and Virginia just before the close of the present fiscal year is an instance of a new phase of old problems that constantly arise. Heretofore we have had no record of a similar outbreak of this disease in the southern section of the United States. The reasons for this unusual prevalence in this area must be studied, as well as many other important factors in epidemiology and control.

J. W. AMESSE.

Diseases of Women. By Harry Crossen, M.D., F.A.C.S. Professor Emeritus of Clinical Gynecology, Washington University School of Medicine; Gynecologist to the Barnes Hospital, St. Louis Maternity Hospital, and St. Luke's Hospital; Consulting Gynecologist to De Paul Hospital and the Jewish Hospital; Fellow of the American Gynecological Society and of the Central Association of Obstetricians and Gynecologists, and Robert James Crossen, M.D., Instructor in Clinical Gynecology and Obstetrics, Washington University School of Medicine; Assistant Gynecologist and Obstetrician to the Barnes Hospital and the St. Louis Maternity Hospital; Gynecologist to St. Luke's Hospital and to De Paul Hospital; Fellow of the Central Association of Obstetricians and Gynecologists. Eighth Edition, Entirely Revised and Reset. With one thousand fifty-eight engravings, including one color plate. St. Louis: The C. V. Mosby Company. 1935.

The high standard of the previous editions of this authoritative and justly famous textbook has been maintained. The authors scrutinize the recent advances in this field with ability and justice and present them to the reader in a very acceptable form. Witness the excellent diagram of the interrelationship of the various hormones of interest to the gynecologist. The text is very readable, easy to follow, and never obscure. Profuse illustrations—splendid examples of the printer's art—illumine the printed page, adding greatly to the charm of the work.

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COMMERCIAL COMMENT

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This device is so arranged that it can be adjusted in a variety of ways so that it is easily adaptable for the use of those affected by infantile paralysis, limb fractures, arthritis, and back or sacrum injuries. The walker is not to be confused with any form of wheel-chair, and though it may offer all the uses of a wheel-chair, the distinguishing feature of the invalid walker is its value as a restorative for weakened muscles, with a resultant shortening of the convalescent period. It provides the feeble and aged a simple means of locomotion with a minimum of physical effort. It may be adjusted to fit children as well as adults.

This invalid walker, because its usefulness varies with the needs of the patient, because it gives assurance to cautious footsteps, and offers a handy seat when legs get tired; because it promotes numerous about-the-house activities once neglected, and encourages self-respect, "helps you to help yourself."

THE AIRPLANE HELPS THE DOCTOR

Several physicians in Colorado and Wyoming own and operate airplanes which are in frequent use in the practice of their profession. One physician in Holyoke, who operates his own hospital, is frequently called upon to fly from seventy-five to one hundred and fifty miles in Colorado or Nebraska to transport emergency cases that cannot be moved over the dirt roads in that rural section. For several years he has used the airplane as a highly efficient and satisfactory vehicle of transportation that has enabled him to save lives where time was a big factor in medical attention.

Several doctors in Colorado and Wyoming are contemplating the training course that brings the government's license to operate a plane, with the intention of purchasing and using a ship regularly, as well as for the sheer joy in accomplishing the unusual.

In this event we do not think it out of place to suggest that Ray Wilson, manager of the Park Hill Airport, Denver, would be a good man to consult in the matter of training and plane purchase. He is careful and conscientious, and understands the physician's requirements.

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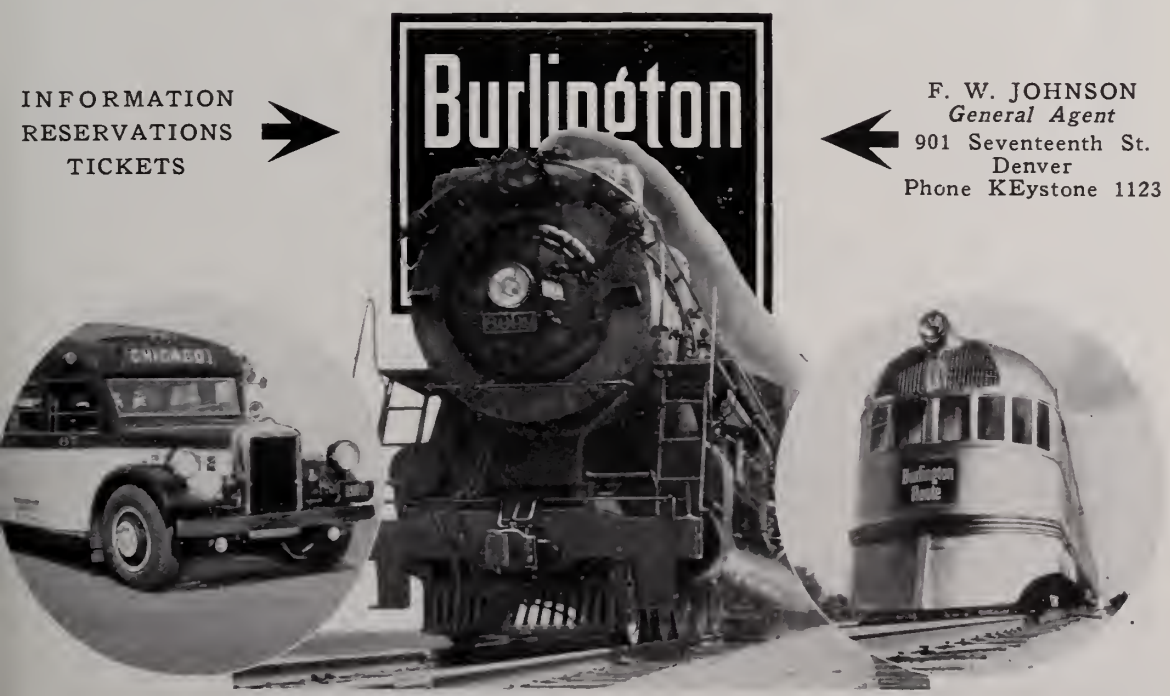
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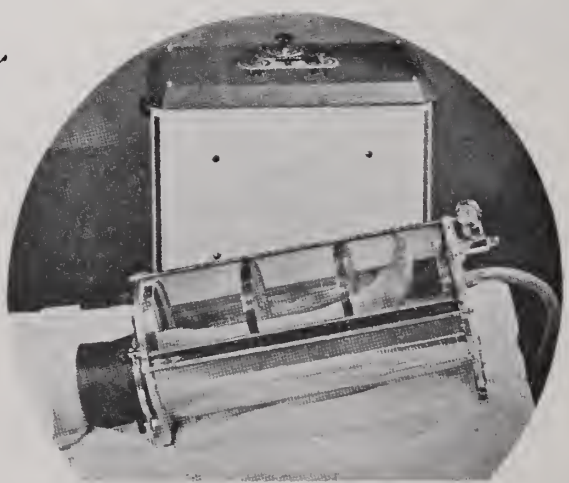
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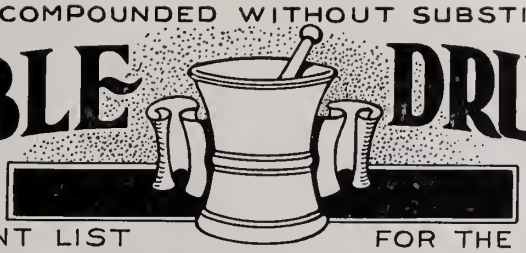
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Doctor:—

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CANNED FOODS AND THE PUBLIC HEALTH

V. FOOD IN THE OPEN CAN

• In September 1935, the facts about food in the open can were presented on this page. It was stated that there was no reason, from the standpoint of food poisoning, why food must be removed immediately after the can is opened. This statement bore the Seal of Acceptance of The Committee on Foods of the American Medical Association.

However, since that time, two incidents have occurred which lead us to present again the facts concerning food in the open can.

First, late last fall, a national organization dedicated to the relief of human distress during war and disaster, issued a list of precautions designed to reduce accidents in the home, in which it was erroneously recommended that food be removed from the can immediately. The Department of Agriculture detected this error and called it to the attention of those responsible for issuance of the recommendations. A correction was made as soon as possible but the damage had already been done. The original safety recommendations had meanwhile been issued in schools and newspapers throughout the country, thus giving further support to this old, unbased prejudice against canned foods.

Second, in the early months of 1936, a release regarding food in the open can was made by a national press service to newspapers throughout the land. The strong inference was made in this press release that food left in the open can might become hazardous to consumer health.

This dissemination of misinformation, referred to in the two instances cited above, has caused an increase in the number of consumer inquiries concerning the safety of food in the open can. To reply to these requests for reliable information, we can well quote from a recent release made by the Department of Agriculture (1).

(1) U.S.D.A. Press Release, Feb. 23, 1936

"It is just as safe to keep canned food in the can it comes in—if the can is cool and covered—as it is to empty the food into another container. Thousands of housewives are firm in the faith that canned goods ought to be emptied as soon as the can is opened, or at least before the remainder of the food goes into the refrigerator—one of the persistent food fallacies. The question keeps coming to the Bureau of Home Economics in letters from home-makers.

"A few acid foods may dissolve a little iron from the can, but this is not harmful, not dangerous to health. Cans and foods are sterilized in the 'processing'. But the dish into which the food might be emptied is far from sterile. In other words, it is likely to have on it bacteria that cause food to spoil.

"Whether in the original can or in another container, the principal precautions for keeping food are—Keep it cool and keep it covered."

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This is the thirteenth in a series of monthly articles, which will summarize, for your convenience, the conclusions about canned foods which authorities in nutritional research have reached. We want to make this series valuable to you, and so we ask your help. Will you tell us on a post card addressed to the American Can Company, New York, N. Y., what phases of canned foods knowledge are of greatest interest to you? Your suggestions will determine the subject matter of future articles.



The Seal of Acceptance denotes that the statements in this advertisement are acceptable to the Committee on Foods of the American Medical Association.

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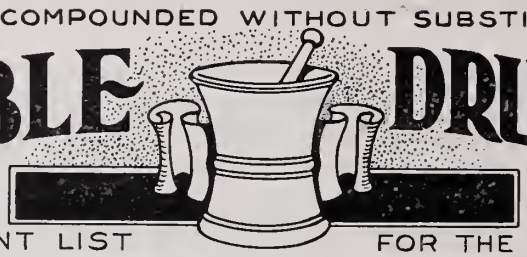
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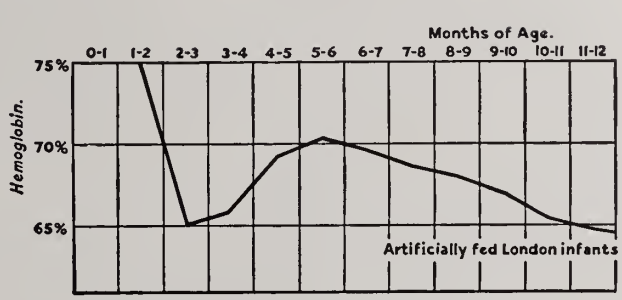
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Nutritional Anemia in Infants



Hemoglobin level in the blood of infants of various ages. Note fall in hemoglobin, which is closely parallel to that of diminishing iron reserve in liver of average infant. Chart adapted from Mackay. It is possible to increase significantly the iron intake of the bottle-fed from birth by feeding Dextri-Maltose With Vitamin B in the milk formula. After the third month Pablum offers substantial amounts of iron for both breast- and bottle-fed babies.

Reasons for Early Pablum Feedings

1. The iron stored in the infant's liver at birth is rapidly depleted during the first months of life. (Mackay,[1] Elvehjem.[2])

2. During this period the infant's diet contains very little iron—1.44 mg. per day from the average bottle formulae of 20 ounces, or possibly 1.7 mg. per day from 28 ounces of breast milk. (Holt.[3])

For these reasons, and also because of the low hemoglobin values so frequent among pregnant and nursing mothers (Coons,[4] Galloway[5]), the pediatric trend is constantly toward the addition of iron-containing foods at an earlier age, as early as the third or fourth month. (Blatt,[6] Glazier,[7] Lynch[8].)

The Choice of the Iron-Containing Food

1. Many foods reputed to be high in iron actually add very few milligrams to the diet because much of the iron is lost in cooking or because the amount fed is necessarily small or because the food has a high percentage of water. Strained spinach, for instance, contains only 1 to 1.4 mg. of iron per 100 gm. (Bridges.[9])

2. To be effective, food iron should be in soluble form. Some foods fairly high in total iron are low in soluble iron. (Summerfeldt.[10])

3. **Pablum is high both in total iron (30 mg. per 100 gm.) and soluble iron (7.8 mg. per 100 gm.) and can be fed in significant amounts without digestive upsets as early as the third month, before the initial store of iron in the liver is depleted. Pablum also forms an iron-valuable addition to the diet of pregnant and nursing mothers.**

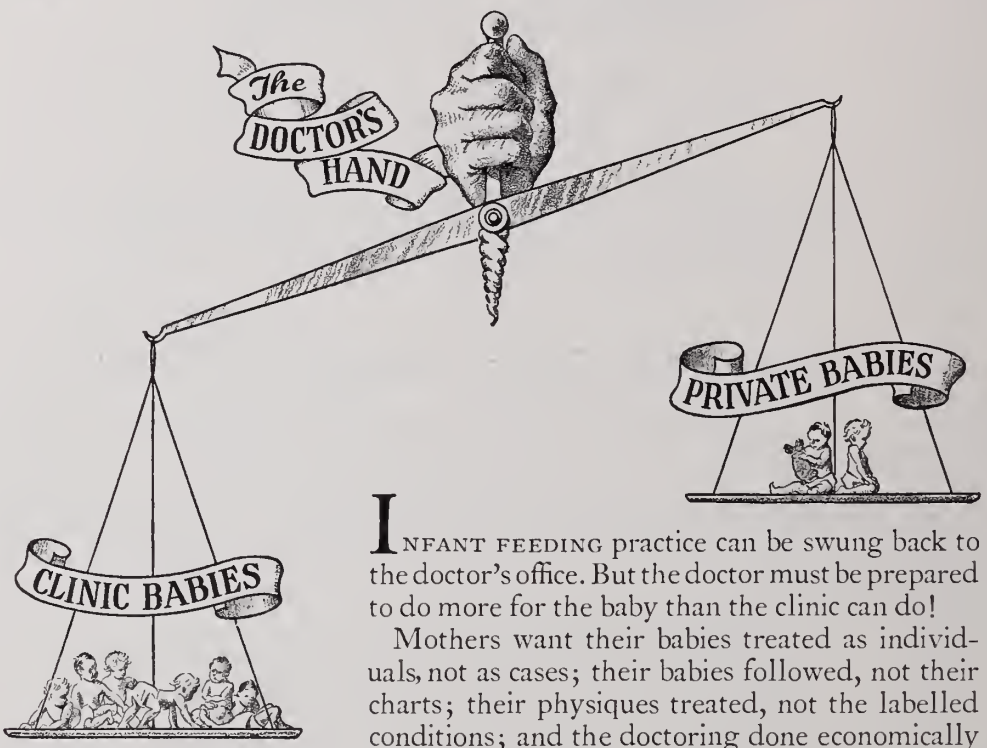
Pablum (Mead's Cereal thoroughly cooked and dried) consists of wheatmeal, oatmeal, cornmeal, wheat embryo, brewers' yeast, alfalfa leaf, beef bone, iron salt and sodium chloride.

[1-10] Bibliography on request.

MEAD JOHNSON & COMPANY, Evansville, Indiana, U. S. A.

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INFANT FEEDING practice can be swung back to the doctor's office. But the doctor must be prepared to do more for the baby than the clinic can do!

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One of a series of advertisements prepared and published by PARKE, DAVIS & CO. in behalf of the medical profession. This "See Your Doctor" campaign is running in the *Saturday Evening Post* and other leading magazines.



The heart as represented in an anatomical drawing of the 18th Century.

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Its Herculean job is made still more difficult by the strain and accelerated pace of modern life. This, perhaps, is one of the reasons heart disease is increasing. Today, it leads all other causes of death—*one person in six, above the age of 40, dies of heart disease.*

That is an alarming figure. It makes the thoughtful person wonder, "What about *my* heart?" And the only person who can answer that question for you is your doctor.

The answer most people get is one that takes a load off their minds—"There isn't anything wrong." But if something *should* be wrong, your greatest security lies in knowing about it promptly. For the heart has remarkable properties of recuperation. It responds to treatment, if started in time, better than most organs in the body. Even people with badly crippled hearts often live happy, active lives after they have been taught what precautions they should observe.

Today physicians know more about the ills of the heart and ways of the heart than ever before. They are better equipped than ever before to treat and control heart disease—and to guard against it as well.

Shortness of breath—fluttering of the heart—numbness of the extremities—these are among the symptoms that suggest an *immediate* trip to the doctor's. But even without warning symptoms, many a wise man sees his doctor at regular intervals—far less "servicing" than he gives his car, yet obviously, infinitely more important.

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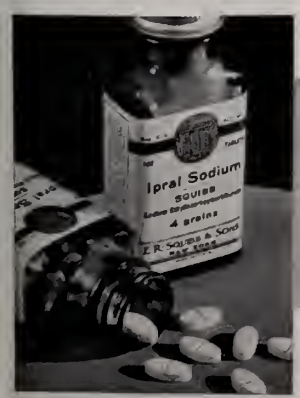
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Colorado Medicine JUNE 1936

Editorial

The Kansas City Session

THE eighty-seventh Annual Session of the American Medical Association has passed into history as one of the greatest ever held. It also was one of the largest. Kansas City teemed with visitors, more than 11,000 persons attending. By the final day, registration totaled 6,850 physicians, 1,500 members of the Women's Auxiliary, as many other women not members of the auxiliary, and about 1,200 persons accompanying the exhibits. Splendid community and personal hospitality contributed in a large way to success of the convention. Hotel facilities were taxed to the limit and many residents lent space in their homes. There was no evidence of dissatisfaction, even among those who had no advance reservations. Comments included only praise for the city's hospitality.

The new Municipal Auditorium in Kansas City is one of the best meeting places available in the country. Its immensity, beauty, and facilities give an immediate favorable impression upon the registrants. The structure is peculiarly suited to our needs. The lower level was given over to technical exhibits—books, apparatus, drugs, foods. This in itself constituted an exposition. Visitors spent many hours studying these materials used in practice. There will be better equipped offices—and better equipped brains—following the inspiration and instruction afforded by these exhibits.

The mezzanine of this great building held the scientific exhibits. Here we were able to study the results of years of careful application by the exhibitors. Nearly 300 spaces presented charts, diagrams, specimens, apparatus and pictures. The movie is rapidly assuming a place of foremost importance as a medium of instruction. Many of the booths ran films continuously. They were exceedingly valuable. Not the least of their value lay in the presence of a dozen or two chairs before the screen. One was reminded of World's Fair days—that is, one's feet and back automatically dictated the seeking out of a place to sit! Being now and again urgent, it was easy to attend upon a presentation foreign to one's interest, if necessary, so long as the lower extremities could gather strength for further progress.

The great arena floor, next above the mezzanine, with its platform, screen and loud speaker system, proved ideal for the general meetings and larger sections. The Music Hall, Little Theater, assembly rooms and committee rooms were ideal for the smaller sections. Across the street the old auditorium still remains; it was used for some of the sections.

The director of the Municipal Auditorium cooperated with a staff of fifty persons on the necessary details pertaining to this phase of the convention. He volunteered a public statement that the doctors had engineered one of the grandest meetings in the city's history, that the type of personnel and the quality of their work was most striking.

Officers of the American Medical Association and business leaders of Kansas City have estimated that medical men spend more money per capita than any other group attending a national convention. This one constituted the first "million dollar meeting" enjoyed by Kansas City. Indeed, they want us back. Undoubtedly it won't be long until the A. M. A. returns. We in Colorado will second that resolution—especially the 200-odd who just came back, weary, but mentally refreshed.

Our special train carried sixty-nine men and women, a happy throng indeed. Such a term is really too mild. However, their hilarity is forgivable on the basis of the necessary dignity at home. Amusing incidents will for years be recounted and iden-

tified with this journey. Many visitors, of course, went by automobile. We might suggest that we may ride our private cars at home, but a special train like that one is a rare institution.

The next session goes back to Atlantic City. Many who went from here to K. C. will be there on the strength of recent enthusiasm for the greatest medical meeting in the world.

Colorado Sponsors An Important Principle

COLORADO'S official delegation to the American Medical Association obtained a modification of the procedures of the A.M.A. Council on Medical Education and Hospitals at the recent Kansas City sessions of the House of Delegates. The change is of vital importance wherever in the United States hospitals train interns or resident physicians.

Innumerable conferences, special meetings of Colorado committees and the State Society's Board of Trustees, two special trips to A.M.A. headquarters in Chicago by official Colorado groups, and voluminous correspondence preceded the development of a resolution presented by our Delegates to the A.M.A. House last month.

Details would fill many pages and are not necessary to this discussion. Suffice it to say that the Council on Medical Education and Hospitals, among its many duties, holds the power to approve a hospital for intern training. This ranking, "approved for training interns," has become a matter of great pride to many institutions, including several in Colorado. When a complaint is registered against such an institution before the A.M.A. Council, or when for any reason the Council feels that discipline of a hospital may be needed, it has been the custom in the past for the Council to ignore the state medical society. This is true in spite of the fact that several states including Colorado established standing Committees on Medical Education and Hospitals a few years ago at the Council's own request. It has been the custom of the Council to deal only with the hospital management or with its staff intern committee, to such an extent that a major Colorado hospital was for a time removed from the approved intern list and thus stigmatized without the Council having in any manner informed the Colorado State Medical Society, even after the action had been taken. The State Society learned about the matter second-hand.

Our Society voiced vigorous and official objection to this procedure, which many referred to as "autocratic" and "bureaucratic," because our Society felt that it has long been part and parcel of the system of medical organization in the United States that each state medical society is the American Medical Association within its own state jurisdiction. Colorado felt, to use the well-known military phrase, that such actions should be taken "through channels," and that the state medical society should at least be allowed to act as amicus curiae to the Council on Medical Education and Hospitals when alterations of hospital rankings were contemplated.

The Council disagreed with our representatives, throughout many conferences and official meetings, and maintained that the national policy could not be changed because in some states the hospitals themselves wished their dealings with the Council held as confidential, and in some instances did not wish the officers or hospital committees of their state medical societies informed of pending actions.

Since no agreement could be reached, and in order to have a final decision by the House of Delegates, which is the court of last resort in all such matters in American medicine, Drs. J. W. Amesse and H. T. Low, Colorado's Delegates, introduced the following resolution under instruction of our Society's Board of Trustees:

RESOLUTION

WHEREAS, Protection of the inherent rights of the state medical societies which form the American Medical Association is a primary function of this House of Delegates; and

WHEREAS, Promotion of state medical society activity and respect for state medical society responsibility are established policies of this Association: and

WHEREAS, The officially stated policy and customary procedure of the Council on Medical Education and Hospitals in regard

to hospital ranking is a definite negation of these democratic and time-honored doctrines, the said Council having ignored the rights of state medical societies and having subsequently denied a respectful petition for correction of such procedure, as will be made clear by detailed documentary evidence accompanying this Resolution; and

WHEREAS, As the result of summary and important actions taken by the Council without informing or consulting the interested state medical societies, uncertainty and resentment toward the Council exist in several, states, inimical to the general policies of the Association, harmful to the welfare of its members, and deterrent to the ends sought by the Association through the said Council; now therefore

BE IT RESOLVED, By the House of Delegates of the American Medical Association: That the Council on Medical Education and Hospitals, in all actions concerning the ranking of a hospital, shall notify the constituted authorities of the interested state medical society and shall allow said society a reasonable opportunity to be heard before the Council makes its decision.

This resolution attracted the earnest attention of delegates from many states, and resulted in a busy meeting for the reference committee of the House which considered it.

As virtually all legislation is the result of compromise, so a compromise ruling was finally offered by the reference committee, and adopted by the House of Delegates without dissenting vote. Following is its form, which now becomes the rule of the American Medical Association and its Council in all such procedures in the future:

"BE IT RESOLVED, By the House of Delegates of the American Medical Association: That the Council on Medical Education and Hospitals, in all actions concerning the rating of hospitals having to do with the appointment of interns and residents, shall, when a hospital is threatened with removal from the accredited list, permit such hospital to seek the advice and assistance of the authorities of the State Medical Society."

We feel that in the final adopted form of the resolution, the basic democratic principle we advocated has yet to be set on paper, but we appreciate that a major step has been taken in the right direction and we trust that the spirit of Colorado's original resolution may be accepted, if not in its letter, at least to an extent that it will be unnecessary again to go before the House of Delegates in criticism of one of the very valuable arms of the American Medical Association.

We congratulate our Delegates on the progress made. We bespeak for those many loyal "organization men" whose hard work and expensive travel can never be repaid, the thanks of every member of the Society.

And finally we predict that history will record Colorado's resolution as a milestone in protection of those democratic principles of medical organization without which the American Medical Association might long since have lost that vital support and confidence which the profession must give to its parent body.

❧ ❧ ❧

The Triological Meeting

THE Forty-second Annual Meeting of the American Laryngological, Rhinological and Otological Society was held at the Brown Palace Hotel in Denver, May 18, 19, 20, 1936. This organization is the world's largest of those physicians and surgeons limiting their practice to diseases of the ear, nose and throat, and standards for admission are very high. Despite the fact that a major part of its membership is drawn from Eastern states this meeting attracted seventy-six members and seventy-four guests in addition to sixty-five ladies who attended. Thirty states and the territory of Hawaii were represented in the registration.

Under the competent guidance of Dr. Thomas E. Carmody of Denver as President a very interesting and instructive meeting was held. The scientific program included excellent papers devoted to the clinical aspect of Otolaryngology and also some on basic sciences in their relation to the specialty. Sixteen papers in all were presented and each was read by the essayist. Motion pictures of creditable technical quality and content formed a part of the program.

The Social program was successfully supplied through the generous efforts of the profession and ladies of Colorado, and the visitors were unanimous in their praise of Western hospitality. Truly this meeting can be recorded as a strong factor in establishing the rapidly growing reputation of Denver and Colorado as the "Medical Center of the West." H. L. H.

SYMPOSIUM ON HEMATURIA

INTRODUCTORY REMARKS*

JOHN B. DAVIS, M.D.
DENVER

In presenting a symposium on hematuria, the members of the Denver Urological Society appreciate the fact that the title "hematuria" is merely the name of a symptom and never a disease entity. We are also fully aware that a considerable number of patients presenting themselves with blood in the urine, either macroscopic or microscopic, are not urological cases, but those suffering from some systemic disease. Among these can be mentioned hemophilia, purpura, certain diseases of the spleen and so-called "medical nephritis." Inflammation of viscera outside the genito-urinary tract but adjacent thereto is at times responsible for the appearance of blood in the urine, as are also trauma and the ingestion of certain drugs. The term "essential hematuria" has been quite generally discarded by urologists. In these cases the bleeding is due usually to some minor local lesion in the kidney or from multiple minute foci therein. "Renal epistaxis" has been suggested as a better name.

Nevertheless the vast majority of cases of hematuria are of urological concern and due often to some grave lesion. Eisendrath and Rolnick have enumerated some twenty-five distinct pathological lesions as sources of hematuria. Perhaps only 5 per cent of the cases are trivial.

These patients usually are first seen by the physician in general practice. The hematuria is the presenting symptom, but all too often the bleeding is intermittent and frequently unaccompanied by pain. Because of this, the physician may be lenient, the patient unimpressed and lulled into a false sense of security. This results in great loss of valuable time from the onset of the first bleeding to the time when a thorough study is made to determine accurately the source and the cause of the bleeding.

Any well qualified physician in general practice will recognize a urological condition or complication when he sees it, and "has intelligence enough to know whether a urological consultation or investigation is necessary."

If one were to try to make a diagnosis by guessing, he would be led by Debenham's statistics to suspect papilloma and carcinoma of the bladder in the male, and inflammatory conditions of the urinary tract in the female. And, in the absence of accompanying pus cells, bladder tumor in men and renal calculus in women would seem to lead the list. In men over fifty the prostate could well be suspected.

The presence of pus along with the red cells, of course, indicates infection of coccic or bacillary type.

As urologists we urge prompt and thorough investigation of all cases of hematuria, good histories, complete physical examinations in most cases and in all a painstaking study of the urine and especially its sediment.

Usually an accurate diagnosis can be made only by a thorough urological examination—the cystoscope, the ureter catheter, and the urogram. This study is greatly simplified if made during the attack of the bleeding.

The three papers to be presented in this symposium concern important urological conditions which usually are accompanied by the presence of either macroscopic or microscopic blood in the urine.

Points we wish to emphasize:

"Hematuria should never be treated expectantly."

Don't guess.

*Read before the Sixty-fifth Annual Session of the Colorado State Medical Society at Estes Park, September 6, 1935. Dr. Davis was the Presiding Officer of this Symposium.

Get a good history.

Examine the patient.

Examine the urine and especially its microscopic sediment.

Obviously only a catheterized specimen in the female is to be considered.

If the patient is to be referred for complete examination and study, do so, if possible, during the attack of the bleeding.

And tell the patient the importance of determining early the source and the cause of the bleeding.

HEMATURIA DUE TO INFECTIONS*

T. LEON HOWARD, M.D.
DENVER

In dealing with hematuria caused by infections, including those of tuberculous origin, I will consider the anatomical source, as well as knowledge obtained from macroscopic appearances and microscopic findings. I feel sure you will agree with the introductory remarks of Dr. Davis that the symposium is one of vital interest to every man of medicine, no matter what may be his specialty. Pain may be borne, for some say there is no such thing as pain, especially if it be in another, but let someone begin voiding bloody urine and you are going to have a visitor. When this occurs, you who have the confidence of your patient, and whose every word is his law, will be betraying a trust when he or she consults you as to either microscopic or macroscopic hematuria and you say that the hematuria is of no consequence and will soon stop. The pathetic part of this beginning tragedy is that the hematuria probably did cease, though medicine which was prescribed had little to do with its stopping, but the patient in his ignorance and faith, and you in your indifference have procrastinated and the time element of golden opportunity is in many cases forever lost.

A careful history will tell you much, especially in macroscopic hematuria. If the patient is a woman, extra precautions have to be used in satisfying one's self as to the origin of the blood, for women are astoundingly ignorant as to their anatomy, particularly the older generation.

If the blood comes from the urethra, external to the bladder sphincter, the patient will tell you, if asked, that it came with the first urine and that the second urine was clear. A male patient, especially, will notice this fact and often volunteer this information without being asked. In both sexes, the gonococcus is the greatest cause of hematuria of urethral origin. We often see severe hemorrhages in male patients during intercourse from the site of old strictures due to a previous gonorrheal infection. As you know, in the female, urethral caruncles are a common cause for the first few drops of the urine being bloody. These caruncles eventually become infected, breaking down into a painful bleeding ulcer, and the patient's attention is called to the blood on the toilet tissue.

If you have never taken advantage of the two or three glass test, do so, for if properly used and interpreted you have a valuable diagnostic adjunct in arriving at conclusions as to the source of blood in the male, but form no opinion as to the source of blood in a urine specimen voided by a *female* patient.

Hematuria from infections of the prostate, if a three glass test is employed to obtain urine, appears in greater quantity in the first and third glass. The first urine washes out what blood has collected in the prostatic urethra, the second glass is clearer, and the third as the sphincters in squeezing out

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the last drops of urine produce a slight hemorrhage accompanied by pain, with a sensation of unsatisfactorily emptying of the bladder. This *unsatisfied sensation* is quite characteristic of bladder neck or trigonal infection in both sexes. Your history should always bring this fact out, should it exist.

Hematuria of bladder origin due to the common organisms, namely, the colon group and the cocci forms, all give symptoms other than the mere presence of blood that should call your attention to the bladder as its source. You must remember that the bladder is only a reservoir, and, as a reservoir, is the recipient of all forms of bacterial invaders that gain entrance to the blood stream and then to the urine. It is seldom uncomplicated cases of cystitis produce massive hemorrhages in the bladder, and by massive hemorrhages is meant that the bleeding is so fast that it forms into clots difficult to expel. Such a condition does occur in infected adenomas of the prostate and in hemorrhagic cystitis. The latter, in my opinion, is due to a blood stream infection in which the bacteria are transmitted to the terminal arteries of the bladder mucosa from a focus of infection in some distant part of the body, often the teeth and tonsils. When such a condition is encountered, your patient will have recurring attacks until this focus is found and removed. I have coined the term "rheumatic bladder" for this condition, for its treatment so nearly conforms to that of acute articular rheumatism.

On cystoscoping these patients, the bladder mucosa shows areas of small submucous hemorrhages, varying in size from that of a pin-head to a ten-cent piece, often with perfectly healthy looking mucosa between. As the submucous hemorrhage increases, a bloody ooze takes place through the mucosa, and this bloody mucus drapes itself in festoons from the wall when the bladder is filled for cystoscopy. Staining this mucus will reveal the type of organism. I have seen only one case of hemorrhagic cystitis due to the colon bacillus alone, proved by staining as well as culture. The patient, a young man, stated that he started to work at his usual morning hour, feeling in better health than in a long time, and made such a remark to his wife. About 11 a. m. he had a sudden painful desire to void, and noticed that the urine was very bloody. On reporting to his doctor, almost pure blood was obtained on catheterization. At cystoscopy his bladder was found as has been described. Certainly some bowel lesion must have been this patient's focus, allowing great numbers of bacilli to enter the circulation. The same week I saw a similar case. A young married woman came into the office complaining of a painful hematuria of a few hours' duration. She was very indignant when I told her after an inspection of the bladder that she probably had a focus of infection, either in her teeth or tonsils, for her catheterized bladder urine sediment, when stained, showed chains of streptococci. Three days later a most competent throat specialist 'phoned me that this patient had part of a tonsil remaining, and cultures made by the pathologist from the pus grew a streptococcus hemolyticus in pure culture. The removal of the tonsillar tissue revealed a small buried abscess. Her bladder symptoms rapidly disappeared, along with a heart lesion for which she later confessed she had recently consulted eastern internists.

The two cases are cited to give some idea of the suddenness of the onset in this type of infection. Search for a focus as in acute rheumatism—if a cure is to be permanent.

As stated, hemorrhage from the bladder due to infection is seldom sufficiently profuse to clot, but when you find clots of any size in a voided urine, and these clots are unaccompanied by *renal colic*, you can be very certain you are dealing with a vesical hemorrhage and not a renal one. Blood of renal or ureteral origin, as a rule, is well mixed with the voided urine, and urine containing blood from these sources, even if allowed to stand over a period of considerable time, will not settle to the bottom of the container, for in passing down the ureter, the hemoglobin is washed from the red cells and remains insoluble. If you will remember this, especially in cases presenting

themselves without pain (painless hematuria), your diagnosis of hematuria of renal origin will be correct in at least 90 per cent of the cases. Should the hemorrhage from a kidney be profuse, the blood will clot, causing obstruction, which in turn produces renal colic.

We have so far mentioned only macroscopic blood, for it was this symptom, probably more than any other, for which the patient sought consultation. It is estimated by Goldburg that it requires 3,000 red cells to each cubic centimeter of urine to give an albumin reaction by the ordinary tests, and a physician who finds albumin and ends his examination of the urine with chemical tests alone, is doing his patient a grave injustice, for without an intelligent microscopic examination and proper interpretation, many early cases of hematuria of a serious nature are going to be overlooked until *too late*. It is my firm conviction that from a urologist's standpoint the dust that is allowed to accumulate on an eye-piece of the microscope is more often responsible for these two words than any other factor.

Probably as distressing as any bladder condition for which a female patient seeks your advice is that first described by Hunner of Baltimore in 1914, and it has received the erroneous name of Hunner's "ulcer." It is really an interstitial cystitis, and macroscopic blood is not one of its signs, but rather microscopic blood in an otherwise very clear looking urine accompanied by painful frequency both day and night. Too many of these patients are operated for pelvic conditions because of their very clear urine, the operator supposing that something outside of the bladder must be producing the urinary distress, he not taking into consideration the red blood cells which are always found if a proper microscopic examination is done on a *catheterized specimen*. I want to stress *catheterized* specimen, for the voided urine of a female patient is a harbinger of false information, and I have never understood why the profession is so averse to insisting upon such specimens, especially if pathology is indicated by the voided one. As to whether this type of cystitis is due to a form of infection is a much discussed question. Many writers on the subject claim they have isolated a very small streptococcus from the bladder wall after resections of the areas involved, consequently patients are advised to remove all body foci of infection. Those suffering from this malady are to be pitied, for their distress is both day and night. and, as above stated, only microscopic blood is a constant laboratory finding.

The hematuria of ureteral origin is very often due to stricture, secondary to a previous infection, either blood borne or from intra-peritoneal contact foci, such as pelvic infections in the female, where the ureters pass behind pus tubes, as well as appendiceal abscesses in both sexes. Infected seminal vesicles in the male with extension of the infection to the ureter and uterine malignancies in the female involving the lower ureters and the bladder wall are examples of these contact foci.

Hematuria of Renal Origin

In discussing hemorrhage from the kidney I will not take into consideration that due to any of the so-called Bright's disease, for urologists do not consider this disease as in any way belonging to their specialty, but I want to give just a word of warning to those who make this diagnosis from a casual laboratory examination, or even when supplemented by an intelligent microscopic interpretation, for these findings must be proved by a confirmatory history, physical changes, blood chemistry and renal excretion tests before you are justified in making such a grave diagnosis, especially in patients under the age of forty-five. Few patients will accept an opinion as final unless this careful examination is made, for we are learning that many renal lesions are producing all the characteristic findings in the urine of what we were taught in school meant nephritis or Bright's disease, but when put through a proper examination proved not to be true glomerulonephritis, yet had all the urinary findings of such a condition.

It is out of the question to go into the details of hematuria produced by various renal infections, and I will only mention that

such occurs in pyelitis, pyelonephritis, pyonephritis, infected hydronephrosis, infarcts, carbuncles of the renal parenchyma and multiple abscesses, but do not forget that the urines found in these cases, besides macroscopic or microscopic blood, frequently have all the other elements usually found in the urine of nephritis, and it is very easy to be misled into thinking that the case is one of such a nature. I know of no condition in which it is harder to make an early correct diagnosis than the infections in the cortex of the kidney, the two outstanding examples being multiple abscesses and carbuncles of the kidney. In these two conditions a careful history as to previous skin lesions may be your utmost important lead in arriving at the correct diagnosis.

I have purposely not mentioned hematuria caused by the invading tubercle bacillus, for the role played by this organism has many distinct features and is due a separate description. It is a subject of much vital interest to the general practitioner, as well as to the surgeon, for it comprises 30 per cent of all surgical lesions of the kidney. Further, in all deaths due to tuberculosis, the genito-urinary tract is either actively or silently involved in at least 10 per cent of the individuals.

We are too prone to associate genito-urinary tuberculosis with active pulmonary lesions, and are robbed of an early diagnosis by so doing. Much has been written in the past few years calling attention to this fact, some of the writers reporting series of renal lesions due to the tubercle bacillus as high as 73 per cent in which no other anatomical focus can be demonstrated. Of course, one did exist somewhere, for it is a practically conceded fact that the bacilli reach the kidney only through the blood stream and are bilateral in their invasion. In the past two years I have removed tuberculous kidneys from seven patients who were born and reared in this state—in which no other demonstrable lesion outside of the kidney could be found. The youngest was less than twelve years of age and the oldest sixty-five, and in none of the seven had renal tuberculosis been suspected, because they were natives of the state, with no previous pulmonary history and looked in excellent health, yet each had active bladder symptoms and had received bladder treatments, some as long as a year, without any prolonged improvement. Each of these patient's urines contained blood, pus, and demonstrable bacilli by laboratory examination when first seen in consultation.

Hematuria in renal tuberculosis is not one of the early symptoms, occurring only in 5 to 7 per cent of the cases, and is practically always microscopic in character, for it is, at this time, originating in the kidney. Not until the bladder has become invaded by the bacillus and ulceration of the mucosa has taken place does *macroscopic* blood appear with any consistency, and this is probably the time consultation will first be called, for, along with this blood, distressing bladder tenesmus is making sleep next to impossible. This blood comes at the end of voiding when the bladder spasm is at its height.

It is rare that renal tuberculosis is suspected before there is bladder distress. Hence, when called to see one of these unfortunates—whether in the stage just described or at an earlier period when bladder symptoms are just beginning, and urine which, as a rule, is persistently acid often in the face of large doses of alkalies, light in color, of low specific gravity, with microscopic blood and isolated pus cells and no perceptible bacteria—be sure to stain a centrifuged twenty-four hour specimen for tubercle bacilli. The finding of the Koch bacillus will occur in a surprising number of these cases one has tried to cure with only temporary success.

In closing, I want to stress the following point. Attempt to make a correct diagnosis in cases of hematuria when first seen and do not wait until the patient quits bleeding, for if the blood is of renal origin it may be impossible to tell from which kidney it arose.

HEMATURIA DUE TO URINARY CALCULI*

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Hematuria, one of the most important symptoms in urological lesions, is frequently caused by calculi in the urinary tract. The amount of blood in the urine may vary from gross hematuria, with the urine bright or dark red in color, to microscopic bleeding with only a few red blood cells present. This depends upon the location, size, and shape of the calculi. It is only occasionally that the blood is in large amounts; more commonly it is slight or microscopic.

Calculi located in the cortex or parenchyma of the kidney are usually fixed and do not, as a rule, produce hematuria unless subjected to some secondary influence, as trauma, etc. Small calculi in the minor and major calices may cause slight hematuria if not fixed in position or irregular in shape. This is due to trauma to the mucosa by the foreign body and is slight in character. Severe trauma, such as a blow over the kidney, with irregularly shaped calculi in the calices or true pelvis, may cause marked hematuria due to damage to the mucosa or kidney tissue itself by the stones. Several years ago I saw a case that was illustrative of this point. A young man 23 years of age fell while running and struck his left side on a large log. The blow was not sufficient to bruise or cut the skin, but in a few moments the patient was in severe shock and his first voiding showed profuse hematuria. He was rushed to the hospital where I saw him a short time later. X-ray examination revealed a group of sharp-pointed jack stones in the left kidney pelvis. A hematoma developed in the region of the left kidney and pure blood was observed in the cystoscope coming from the left ureter. The patient was operated and it was found that the stones had torn through the pelvis and also very severely injured the parenchyma of the kidney. A nephrectomy was necessary. Large calculi fixed in the calices or pelvis may not cause bleeding at all, or only a slight amount, unless they become fragmented and then the fragments act as smaller stones. Silent stones may have hematuria as an only symptom.

Ureteral calculi originate in the kidney and then go into the ureter where they either pass through to the bladder or become lodged in the ureter itself. Hematuria is usually produced here by a movable calculus due to trauma to the ureteral mucosa. It is practically always present during the first attack, but is small in amount or microscopic; in fact, only a few blood cells may be in the urine. If the calculus becomes impacted, blood usually ceases, and if complete obstruction occurs there is no hematuria.

Vesical calculi may or may not be the cause of hematuria. This depends upon the size and shape of the stone or stones. Irregularly shaped stones are apt to cause hematuria due to trauma produced, while smooth stones are not. The amount of bleeding produced by these calculi is usually greater than that produced by renal or ureteral ones. This is due to the greater motility of vesical calculi, the mechanics of filling and emptying the bladder, and the structure of the bladder mucosa with its numerous small capillaries. Sometimes profuse hematuria may be produced by vesical calculi.

Prostatic calculi are rather uncommon. There are two varieties—the exogenous that has originally been formed in the kidney, passed down the urinary tract, and lodged in the prostatic ducts; and the endogenous that is formed in the body of the prostate itself. They are usually multiple and may be a cause of hematuria, especially when associated with prostatic hypertrophy. The bleeding here may be terminal—that is, following the act of urination—or it may be of the usual variety, the blood flowing up into the bladder and mixing with the contained urine.

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Urethral calculi may produce hematuria of three varieties—initial, preceding the act of voiding; hematuria during voiding; and terminal hematuria, following the act. Here again the bleeding depends upon the size and shape of the stone and the amount of trauma produced by its passage.

Hematuria must never be regarded as a disease in itself; it is only a symptom, but one of the most important of all symptoms in urologic disease. It demands most careful investigation to determine the exact location and cause. This is the function of the uroiogist.

The diagnosis of calculi in the urinary tract as a cause of hematuria is made by the routine use of several different methods of examination. Most important of these are roentgenography, cystoscopy, and urography. About 97 per cent of urinary calculi will show a shadow in the x-ray film, and a plain film should be the first procedure. If an abnormal shadow is found in the region of the kidneys, ureters, or bladder, it is necessary to prove that it is in the urinary tract by cystoscopy, ureteral catheterization with retrograde urography, or intravenous urography. Calculi in the bladder can be observed through the cystoscope. The number, size, shape and the amount of trauma and irritation caused can be accurately determined. Calculi in the ureter can be observed in apposition to the ureteral catheter in the x-ray film or incorporated in the shadow of the ureter filled with a contrast medium. It is wise to take several exposures of suspected ureteral stones at different angles to rule out shadows outside of the ureter, such as phleboliths, calcified glands, etc. Stones in the pelvis and calices of the kidney can be proved by pyelography, either retrograde or intravenous. Those in the parenchyma and cortex of the kidney depend upon good kidney shadows to determine their location. Calculi in the prostate show characteristic shadows in the prostatic area in the film, while those in the urethra may be demonstrated in the film or by instrumentation.

The small percentage of calculi not demonstrable by x-ray are usually of pure uric acid or cystin formation, and here the diagnosis is more difficult. The presence of cystin or uric acid crystals in the urine helps, and when accompanied by renal colic, obstruction to the ureteral catheter in the ureter, hematuria either microscopic or macroscopic, and the presence of negative shadows or filling defects in the urograms, the diagnosis is made possible.

The differential diagnosis between renal or ureteral calculi and various abdominal lesions is of utmost importance. It is quite embarrassing for a surgeon to operate for a supposed appendiceal or gallbladder condition, only to have the patient have another attack before or shortly after leaving the hospital, and later find a renal or ureteral calculus. Here the presence of hematuria usually points the way to the correct diagnosis. Frequent urinalysis will show the presence of blood even in very small amounts, and when this occurs a complete urological examination is indicated. This usually reveals the calculus, if present. The examination need not delay for long any necessary operation in case a calculus is not found. Acute appendicitis may sometimes cause symptoms very similar to ureteral calculus, particularly where pressure on the ureter is exerted. However, very seldom are blood cells found in the urine, although that is possible. The white blood cell count cannot be depended upon, as it may be greatly elevated in all these lesions. Both renal and ureteral calculi may cause symptoms that are more abdominal in character than urinary . Obscure abdominal symptoms should cause the urinary tract to be kept in mind, and a urological examination will often reveal the true lesion present.

A few remarks as to the etiology of urinary calculi would be proper at this time. Many theories have been advanced, but unfortunately no single theory appears to satisfy all the requirements. The theory of infection sponsored chiefly by Rosenow[1] and his co-workers has many adherents. He was able to procure calculi in the kidneys of animals by injection of specific organisms obtained from cultures of tonsils, teeth and urine of patients having urinary

calculi. The organisms (streptococci) were planted in the devitalized teeth of dogs. C. H. Mayo[2] has directed our attention to stagnation and infection as the cause of urinary calculi. There is no doubt that faulty drainage and infection are contributory causes in many cases of urolithiasis, but the exact influence these factors exert is not clear. The experimental work of McCarrison[3] on cattle and rats in India and his observations among the various people there suffering with this disease leaves no doubt that there is some evidence of a relationship between a deficiency of vitamin A and the formation of urinary calculi. Higgins[4] of the Cleveland Clinic has produced calculi in the urinary tracts of white rats deprived of vitamin A and has caused their absorption by feeding large amounts of this vitamin. Joly regards the lack of vitamin A as producing some action on the urinary colloids that reduces their power of holding stone-forming salts in solution. The physiological chemist has shown the importance of colloids and crystalloids in the urine in the formation of stones. The colloids are supposed to be protective, keeping the crystalloids in solution. Keyser[5] has caused calculi by producing excessive excretion of urinary crystalloids in such large amounts that the colloids were unable to take care of the solution of the crystals. The importance of hyperparathyroidism as a cause of urinary calculi has been recently shown by Albright, Aub and Bauer[6] at the Massachusetts General Hospital. Dysfunction (hyperactivity) of the parathyroid bodies has been shown definitely associated with a high incidence of renal lithiasis as a result of disturbed calcium and phosphorus metabolism. Surgical removal of the parathyroid adenoma has apparently cured the patients.

Treatment of these cases requires very careful study of all conditions and complications present. Each patient must be regarded as a separate problem. According to Counseller and Priestley successful treatment of urinary lithiasis depends upon five main points; first, complete removal of stones, if possible; second, complete relief of urinary obstruction; third, elimination of infection; fourth, correction of metabolic disorders; and fifth, periodic examination following removal of stones.

Outline of Treatment

1. Removal of the calculi is accomplished by either cystoscopic and instrumental methods or by surgical procedures. Dilating the ureter by means of multiple ureteral catheters, bougies, or special instruments will cause a high percentage of ureteral and small renal calculi to pass out of the urinary tract. Where the calculus is too large to pass or becomes impacted, surgical methods must be employed. In the kidney the more conservative operations should be done with the preservation of as much renal tissue as possible. Pyelo-lithotomy, nephro-pyelo-lithotomy, and nephrolithotomy are the operations of choice. Nephrectomy should only be performed where the kidney is damaged beyond all hope of repair. If the calculus becomes impacted in the ureter with resultant obstruction, lumbar ureterolithotomy or pelvic ureterolithotomy should be done before too marked damage to the kidney results. Vesical calculi may be removed by lithopaxy (crushing with a cystoscopic lithotrite and evacuation of the particles) or by surgical cystotomy.

2. Obstructions present, such as stricture of the ureter, aberrant vessels obstructing the ureter, constricting bands, uterocele, prostatic and bladder neck obstructions and urethral stricture, must be properly treated and removed.

3. All existing infection should be eliminated by consistent follow-up treatment, such as renal lavage with the ureter catheter, bladder lavage, the use of urinary antiseptics by mouth, the elimination of other foci of infection, and an appropriate diet (large amounts of vitamin A).

4. Metabolic disorders, such as excessive uric acid formation, cystinuria, and hyperparathyroidism are treated by proper diet, alkalis, and the surgical removal of excessive parathyroid tissue.

5. Periodic complete examinations to discover early recurrences, resistant infections, and resultant function.

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TUMORS OF THE URINARY TRACT*

THEIR RELATION TO HEMATURIA

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Malignancy of the urinary tract carries a greater incidence of mortality than cancer elsewhere in the body and for this reason it is quite important that we emphasize the one outstanding symptom—painless hematuria—in order that the general practitioner may educate his patient to be ever on the lookout for the appearance of blood in the urine. It has been stated that painless hematuria may be the initial and only symptom in more than 60 per cent of tumors of the urinary tract and that, because of the absence of pain and the too frequent incomplete study of the patient complaining of this symptom, the mortality rate of renal neoplasm has reached the frightful peak of 85 per cent.

As a general rule, the period of bleeding from renal tumors is short and intermittent. In a series of 146 cases studied by Devaclara, only in one did the hematuria last as long as fourteen days. It is, therefore, up to the physician and the patient to seek immediate and competent advice during the early period of hematuria, when renal surgery may offer its best opportunity of relief.

All kidney tumors are essentially malignant and, because of the difficulty of sufficiently early diagnosis, nephrectomy has offered a low percentage of cures, as metastasis may have taken place before even the initial symptom developed. The metastasis is usually carried by the blood stream, affecting the lungs, liver, and osseous tissue. Lymphatic metastasis does occur, but not nearly so early as through the blood stream. The explanation of this metastasis is that the close proximity of the tumor cells to the capillaries in the kidney make early and direct blood dissemination possible.

In reviewing the literature, we find that neither the size nor the microscopic characteristics of the primary lesion give a definite clue as to the possibility of metastasis. It has been found that when two lesions are apparently identical, each may have an entirely different prognosis following surgery. One may have metastasis; the other may not. From recent observation upon a case, it was demonstrated that extension of the malignancy into the renal vein and vena cava had taken place, yet a post-mortem secured twelve days following operation revealed that the metastasis had not progressed except in the vena cavernosa. The adjoining lymphatics were negative.

Doctor R. W. Arndt of this Society holds strongly to the view that whenever the tumor has progressed sufficiently to cause breaking down with resultant hemorrhage, metastasis from that tumor has already taken place. Inasmuch as surgical cures have been obtained in 15 per cent of renal tumor cases and hematuria at some time is present in approximateyl 95 per cent, statistics would seem to prove that this belief is not altogether true. This idea certainly gives food for thought before suggesting radical sur-

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gery to an older patient giving a two or three year history of intermittent hematuria that is eventually proved to be of renal origin.

In considering the subject or urological tumors, those of the kidney may be classified according to their order of importance as follows: First, tumors of the renal parenchyma in the adult; second, tumors of the renal parenchyma in the child; and third, tumors of the kidney pelvis.

Our most common parenchymal tumor in the adult is the hard type of carcinoma, which may be either an adenocarcinoma, an alveolar carcinoma, or malignant cyst adenoma. The term hypernephroma, which was formerly so widely used, has been abandoned by the pathologist as it is a debated question whether or not these tumors may have originated from misplaced adrenal cells. Renal carcinomata are usually yellowish in color and are more or less lobulated. Early in development they are surrounded by a definite fibrous capsule which may break through, invading the renal parenchyma, pelvis, and renal veins. They may also invade the surrounding perinephritic tissue and, by direct extension, become intraperitoneal. It has been noted that these tumors go through certain phases of growth activity, as I have watched a large tumor of the kidney in an older individual for a period of years before metastasis caused death. In other instances, these carcinomata grow very rapidly and metastasize early without showing symptoms referable to the primary growth—the primary growth being discovered only by suggestion as the result of the distant metastasis, such as spontaneous fracture or a lung involvement.

The other parenchymal type of tumor, seen mainly in children and described so beautifully by Wilm that it is known as Wilm's tumor, is in reality an embryonal sarcoma and usually is found by its production of an upper abdominal mass—hematuria being rarely an early symptom. Dermoid and benign tumors are extremely rare, but do occur and have been reported, their existence being a curiosity and of little practical importance. Here we also find the chief symptom to be an upper abdominal mass such as is the case of a Wilm's childhood tumor. Treatment of renal tumor, although it carries between 11 and 30 per cent operative mortality, is nephrectomy. X-ray is of questionable value, except in the rare embryonal growth when x-ray should precede the nephrectomy.

Tumors of the renal pelvis are pathologically identical with those found in the ureter and bladder. The symptomatology is also identical except the appearance of a tumor mass is usually absent. The treatment differs from parenchymal tumors only in that both nephrectomy and complete ureterectomy must be performed at the same operation. Prompt operation here gives a higher percentage of cures. X-ray therapy has proved useless except as an agent to stop bleeding. In one instance I believe that x-ray therapy actually hastened metastasis by liberating part of the friable mass in the kidney pelvis so that it made numerous implantations along the ureter and into the bladder.

Primary tumors of the ureter are rare—the literature being thoroughly reported by Scott in Surgery, Gynecology and Obstetrics for February, 1934. His conclusion is that complete nephrectomy and ureterectomy is the treatment of choice provided the opposite kidney has adequate function to maintain life. Occasionally we overlook papillary tumors of the renal pelvis which are causative factors of recurring papillary tumors of the bladder and it is now our practice to make a pyelographic study of each case of bladder papilloma.

Because pyelography usually gives characteristic evidence of the type and location of tumor, we, as urologists, may think of it as the only method of diagnosis. Yet certain observers, notably Hinman, believe that too much importance has been given this method and that frequently early tumors are missed because a single pyelographic study tends to produce a feeling of security both to the urologist and the patient with the result that subsequent pyelography is neglected.

In their differential diagnosis there are few pitfalls of failure if adequate attention is given—the only pathology which might be confused in clinical diagnosis being a cystic or polycystic kidney. There is little danger of confusing the shadows cast by tumor with those of a renal infection, and although examination of urine may be conflicting, the clinical course and physical examination usually are sufficient to complete the evidence warranting diagnosis.

There are certain clinical signs which suggest that hematuria is of renal origin: First, the blood is mixed with the urine and there is a relative absence of clots; second, if clotting does occur, there may be found strings or blood casts suggesting by their shape that they came from the ureter. However, even though we find all these signs, a conclusion cannot be reached without cystoscopy. So far as I know, the only type of hematuria which can be accurately diagnosed without visual or x-ray inspection is that which comes from the anterior urethra.

For practical purposes, bladder tumors may be classified as of two types—first, the soft papilloma or papillary carcinoma; second, the hard tumors, such as adenocarcinoma of the infiltrating variety. The predominating symptom here again is hematuria, which is present in 77 per cent, frequently painless.

I wish to report briefly a case history of one of our eminent Colorado physicians who stated that for three and one-half years he had hematuria on numerous occasions, that the attacks became farther apart and of less consequence, but during the last year he had slight pain in the left costovertebral angle which seemed to decrease in severity during an attack of hematuria. He was recently examined by a urologist, but because of the doctor's fear of a cystoscope, intravenous pyelograms were made which showed both kidneys to be normal. Cystoscopic examination shortly thereafter showed a large soft papillary carcinoma of the bladder with a relatively broad base. He was treated by x-ray, transurethral section and coagulation of the tumor and has remained well since that time. Recent examination showed no definite recurrence of the growth, but there was a slight redness about the scar.

My point in reciting this case is to emphasize that even a practicing physician sixty years of age would allow himself to go for three years with a painless hematuria and during that time develop a malignancy of the bladder requiring the most radical type of treatment. When the patient has definite pain and burning on urination, he will readily submit himself to examination. When there is no pain and he is assured by a physician that the blood may not be of much importance, the hematuria becomes something of a habit and by the time other symptoms are sufficiently severe to make him consult a second physician, the tumor growth has enlarged to the point that the most radical procedure is necessary.

In the treatment of bladder tumors, it is sufficient to say that most hard or infiltrating tumors, which compose but about 5 per cent of cases, require radical resection of that portion of the bladder. In the treatment of soft tumors of papillary type, we insist upon x-ray being given first, transurethral section and coagulation second, and at least an erythematous dose of x-ray following removal of the tumor. I am strongly opposed to suprapubic coagulation of bladder tumors as usually the same work may be performed through an endoscope or resectoscope and certainly the end result is much more satisfactory.

In certain instances suprapubic coagulation is necessary for those having an extremely broad base and should be done by this method if the surgeon is not proficient in the use of a resectoscope. However, we prefer not to open the bladder and have resorted to a repeated transurethral coagulation in several instances.

It has been proved in the large clinics that soft bladder tumors are readily treated by both radiation and coagulation, or a combination of both. The urologist now assures from 40 to 80 per cent of patients suffering a hematuria from this type of bladder tumor that he may expect a cure—the difference in his percentage being dependent upon the size and age of the tumor.

ABSTRACT OF DISCUSSION

R. W. Arndt, M.D. (Denver): One must first be sure he is dealing with hematuria. Occasionally a mother will bring in a diaper colored red, fearing hemorrhage, when the discoloration is due to a phenolphthalein laxative. This also discolored the urine, making it resemble blood. The general practitioner is, in the majority of cases, consulted first for hematuria, and our job is to find out the cause.

What are some of these causes? Are we dealing with a renal tract lesion or with some general condition? And what general conditions are attended by the passage of blood? The specific fevers, purpura, scurvy, the anemias, hemophilia, leukemia, malaria, and hemoglobinuria are the most common. Trauma from a fall, a blow causing rupture of the kidney may have occurred. Hemorrhage very often follows upon operations on the kidney. Out of a hundred cases of hematuria which we as internists see, the majority will represent instances of glomerulo-nephritis, either acute or acute exacerbations of chronic nephritis. Perhaps next in order of frequency are those induced by certain toxic agents such as phenol, turpentine, cantharides, and salol; perhaps we ought to add hexamethylenamine to this list. Urotropin most certainly causes bleeding if too long continued, particularly in susceptible patients. That leaves 65 to 75 per cent which are genito-urinary in origin. With many of these even the urologists have serious difficulties in diagnosis and therapy.

In spite of what Dr. Wear says, I still maintain that hematuria in a patient who has carcinoma of the kidney is a late event. Any malignant tumor which ulcerates into the blood stream sufficient to give hematuria I fear has already gone on to metastasis. I also believe that cancer anywhere below the diaphragm, which is attended by peritoneal effusion, is a pretty late situation—probably too late for successful surgery.

It is regrettable that the term Essential Hematuria has obtained a certain currency. Its basis is surely doubtful. I suspect that the making of this diagnosis is a confession of ignorance or of an inability to find a positive cause. There is, to be sure, a spontaneous bleeding often attended by pain, with negative x-ray films. The hemorrhage ceases of itself and rarely produces anemia. Gale and Dr. John Davis have called it renal epistaxis. I wonder if this is like neurasthenia—a sort of grab bag into which we throw all cases the exact diagnosis of which we are ignorant. Perhaps allergy may displace essential hematuria and neurasthenia.

Occasionally an acute appendicitis will mislead. I recall a lad who was considered to have a case of renal tract infection and the appendix was allowed to rupture before the hematuria and pyuria were correctly interpreted.

Now to sum up, what is our duty as doctors? Manifestly, to make a diagnosis of the source of bleeding. If the diagnosis and therapy are not obviously within our realm, in justice to your patient and to yourself, don't hesitate to get help! What if the hemorrhage does cease, after giving a certain drug? How do you know that it wouldn't have stopped anyhow? Look on hematuria as an engineer does a red light. How wrong to consider an hemoptysis as of trifling import! It is just as grave a mistake to look upon hematuria lightly. Luckily we have men throughout the state who can help us.

O. S. Fowler, M.D. (Denver): This is a subject that is old and yet is neglected a great deal. I feel that Dr. Arndt, in his part of the discussion, gave somewhat of a lullaby. If he hadn't added his last remarks, I fear that you would have still felt a little bit of defense in your diagnoses and oftentimes in your lag in sending these cases in for accurate diagnosis.

A man some years ago, whom thirteen doctors had seen before I saw him, had eleven different diagnoses, none of them correct. He had a simple papilloma of the bladder and its treatment was very evident.

There are certain phases of this question that are relatively simple and definite, especially those of tumors and of demonstrable stones. I want to speak of certain of the elusive conditions in which there is discussion as to the pathology and I feel that the correction of the condition is much more important than the diagnosis if you can get at enough pathology to direct you in treatment. I see a point of clarification in that which Dr. Arndt stressed so much and would differ with Dr. Howard in his statement that hemorrhagic nephritis is not a surgical condition nor a condition for the urologist. It is my opinion that if you get kidney bleeding in some systemic involvement, that that kidney is not normal or else it wouldn't bleed, because of all similar conditions there won't be more than a small per cent of them that actually take on the phase of hematuria. It is true that oftentimes removing tonsils will stop the hematuria, but in my opinion you have not relieved that individual's pathology. If I am correct in that view, then it would mean that the cases mentioned by Dr. Arndt, with the exception of the chemical origin, that blood in the urine should be investigated by the urologist.

Thad P. Sears, M.D. (Denver): Dr. Fowler and I have disagreed before on his classification of nephritis. He frequently, in his terminology, uses that expression, "hemorrhagic nephritis." I believe that in the modern classification of nephritis we have no entity which we recognize now as hemorrhagic nephritis.

If an unusual degree of hemorrhage takes place in the course of an acute glomerular nephritis, it is merely an expression of the severity of the lesion and is not a separate and distinct pathologic entity.

If patients that Dr. Fowler has mentioned have a surgical condition which is causing the hematuria, this then is a surgical disease, but if he is discussing just the theme of nephritis, it remains within the domain of the internist.

L. D. Dickey, M.D. (Fort Collins): A case of hematuria that came to me puzzled us for a great while, but turned out to be due to a hemorrhagic perforating type of ovarian cyst commonly known as chocolate cyst. This patient presented a left renal colic which we presumed was due to stone, but upon urethral catheterization and pyelogram we relieved her colic and we could not make a diagnosis of stone. The colic was due to small masses which were tender in the pelvis, associated with recurrent menstrual pains of severe type. An exploratory laparotomy was done. The perforating cysts were found; they were adherent throughout the pelvis. The patient's recurrent attacks of hematuria were cured by their removal.

C. F. Kemper, M.D. (Denver): I desire only to add one other cause of hematuria—bacterial endocarditis. It doesn't occur too uncommonly, and certainly is a cause of hematuria.

Philip Hillkowitz, M.D. (Denver): I will take a shot at Dr. Arndt, with whom I like to argue. Dr. Arndt is on firm ground when he says that hema-

turia is evidence of metastasis having taken place. There is only one slight flaw, in the reasoning. It is true that there has been a breakdown of the tumor cells and the tumor cells may probably be already floating in the blood, but not every tumor cell that is disseminated in the process of metastasis necessarily takes on growth.

In other words, some of them die. Otherwise we would have a universal metastasis over every part of the body. Hence there is still a ray of hope that while these tumors may have broken down and may be lodged in different places, they do not form metastases.

Dr. Wear (Closing): In rebuttal in one way, against the possibility of nephroptosis being a cause of hemorrhage, I look back a number of years to one patient who underwent an incomplete cystoscopy and a bilateral nephropexy. He died sixteen months later from carcinoma of the bladder. Though blood was obtained by the trauma of the urethral catheter at the time of the first cystoscopy, the tumor was overlooked.

He was a very old friend whom I hated to lose, and more particularly do I regret that he had a bilateral nephropexy for an incorrect diagnosis as to the cause of his hematuria.

THE MEDICAL WITNESS*

PHILIP WORK, M.D.
DENVER

With the ever widening scope of industrial insurance and the tragic increase of traffic casualties, the medical man is finding himself more frequently in the forensic witness chair. The average physician views this contingency with extreme distaste and not infrequently goes to absurd lengths in his efforts to avoid it. That this is so is due largely to two factors—a lack of awareness on his part of his rights and privileges on the stand, and an uneasy feeling that he will become the pawn of practitioners of an art he does not understand, as an outcome of which he may emerge from the court room in some mysterious way discredited in his community. Not infrequently he feels and occasionally he says that his efforts were misconstrued and the cross examiner has "made a monkey out of me." Your essayist has seen events in the court room that would lend color to such an impression, but it is his considered opinion that by his own conduct or words the witness usually contributed his full share to that unique biological transmutation.

In the hope that the path of the doctor in court may be smoothed a few observations and suggestions are tendered. The prospective witness can do no better than to remember the warning in a great book on one phase of legal medicine: "The medical man when he enters the contentious atmosphere of a court, must beware of being inoculated thereby and made a partisan—and, leaving the legal rights to be safeguarded by the law, he must deal impartially with the abstract medical questions alone[1]."

To mitigate further his intra-psychic tremor let him remember that:

He is a witness, not an advocate.

He must not allow his sympathy or his emotion to bias his judgment nor color his utterances.

He has or should have no selfish interest, financial or otherwise, in the outcome of the action.

He is expressing under oath the scientifically grounded opinion of a member of an honorable and dignified profession.

He should not attempt to utilize the judicial scenery for his own aggrandizement.

He has certain definite rights as well as duties before the Court.

The doctor may enter a legal case either by request of counsel, by subpoena of the Court to testify on one or the other side, or as "amicus curiae," a friend of the Court, in short, the Court's witness. The amicus curiae is a suitable physician appointed by the trial judge to examine the patient and report his conclusions directly to the judge in open Court. The physician thereafter becomes the witness for the side his opinion favors. Having accepted employment or been ordered "under penalty" his time on the day appointed is entirely at the disposition of the attorneys or the Court. In more than twenty years your essayist has never found counsel or Court unreasonable or improperly arbitrary in this regard.

Terms of employment and remuneration are matters of private contract to be agreed upon prior to trial. Suffice it to say that there is no provision in Colorado statutory law compelling the payment of special fees to experts though it is customarily understood that "the workman is worthy of his

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hire." In criminal cases there is usually some special fund for such expense. Once on the stand never wrangle for increase of compensation. One should be able to foresee the implications of his probable testimony, and arrange in advance. If one feels entitled to more, a social call on counsel or judge after trial is more dignified and, incidentally, more often productive.

Never testify on a contingent basis; nothing is more fatal to the value of testimony. If asked if you are not being "paid for this," answer in a dignified manner that you certainly are, or expect to be, or that you have charged and expect to receive a reasonable fee for your knowledge and time. This question, rarely asked, borders on insult and is asked for one of two reasons only, as a foundation for impeachment of testimony or because counsel is on a "fishing expedition."

If in the heat of cross examination, counsel appears to impugn the witness' veracity, a quiet appeal to the judge that the witness is under oath or that he is not on trial will have the desired effect. It is an old story to the judge, and he is probably more tired of it than you are. Judges are human.

A physician may be called to testify to questions solely of fact, in which case he is but an ordinary witness and paid as such. Testimony that he attended or performed an autopsy on John Doe is but fact, testimony as to the nature or probable effects of the illness he found is, as Sherlock Holmes would say, "another story." The doctor is not regarded as an expert witness until he has qualified;" i. e., shown that he is a physician, duly licensed and in good legal status where the service was rendered. If the doctor be imported for this special case, it is sufficient that he be registered in his home state and county. If he be a witness in a special field, his explanation of his peculiar qualifications, his education, his special training and his experience must be shown and admitted by Court and counsel. The Court and the jury, not to mention opposing counsel, will look with a jaundiced eye upon the doctor who attempts to qualify as expert in widely diverse specialties. The clearest medical testimony your essayist ever heard was given by a country doctor sixty miles from a railroad and the most confusing came from a most erudite specialist.

The witness should look at and talk to the jury in a clear audible voice, unhurriedly but dignifiedly, unhesitatingly and firmly. Avoid technical terms if possible. If not, explain promptly and simply. To a layman 104 degrees is a high fever, not a hyperpyrexia; to him an ecchymosis is a bruise. Put yourself on an apparent mental parity with the jury. Speak their language. Nothing will so quickly or so effectively antagonize a jury or render it sublimely indifferent as a learned discourse in a to it foreign language. After one hears such a lecture a rural juryman was heard to say that no high hat doctor in a white collar from the big city could tell him about the mental capacity of the man he had lived neighbor to for years. The use of similes drawn from the vocation of the locality will clear up many points in the minds of the jury. A comparison between a cerebral hemorrhage and a break in the bank of an irrigation ditch will obviate a tiring lecture on anatomy and physiology of the brain.

Never lose your temper. Answer briefly. Very few questions cannot be answered yes or no. If counsel wants you to explain, he will ask you. Do not go farther than the question intends. Volunteer nothing beyond the scope of any question without previous conference with your attorney. Not infrequently, however, an experienced witness will find on cross examination an opportunity to amplify a statement made in the direct examination with redoubled effect. You cannot be cross examined on anything you have not said, except occasionally to discuss testimony of earlier witnesses. You have a right, in which the judge will sustain you, to qualify your answers, if necessary, but this may sometimes be interpreted, perhaps properly, as evasion, ignorance, or as an effort to show off. Do not be distressed if the cross examiner approaches you with a gleam in his eye and says, "Now, Doctor, is it not a fact that you——." Do not hedge —yes or no is usually sufficient. If not, "Not exactly" will bring you help on redirect examination, if you deserve it.

Do not be stampeded by a bullying cross examiner; take your time. You have a right to finish your answer, if it be pertinent. As a last resort an appeal to the Court will usually be sympathetically received. Do not be in a hurry to answer. Counsel may want time to make objection or for some other legal purpose. Watch the attorney while he is stating his question. Many surprises may be thus avoided. Watch your own attorney during framing of cross examination questions.

Once on the stand be placid and dignified. Keep your hands still, don't drink water frequently. Sardonic examiners have been known in such contingencies to ask if the witness not the patient is not the nervous one.

Never, never go into court without refurbishing your memory on everything that could possibly have any bearing on your testimony. Brush up on anatomy, locate your records (do not amplify them), refresh your memory on related circumstances.

A certain type of attorney likes to ask about books. Never unless in most exceptional circumstances admit that any book as a whole is authoritative. You do not have to. It is no disgrace not to have read one certain book, and he might give you a phony title. It has been done. You have a right to and probably do disagree with some things you read. You have had experience yourself. After all, a book is merely a written opinion of another man.

Do not permit yourself to give opinion on a single sentence read to you. Demand the context.

Do not take it too much to heart if the cross examiner infers that many of your patients with the ailment in question have died. Counsel loses cases, too, but it is scarcely diplomatic to remind him of it.

Enter into no verbal fencing with the cross examiner. It is his game, not yours. Occasionally there is a golden opportunity to discomfit him by your retort, but it is a dangerous pastime even for those of experience and poise. If the examination be unjust, or you feel that you are being goaded, the reply that the question is not clear or that it is not in your opinion fair will bring your attorney to your rescue. A technical witness is assumed to be able to take care of himself on cross examination and most attorneys will let their witness alone till they recognize distress signals.

It does no harm to say occasionally that a given item is outside your province and favorable recognition of occasional points made by the other side is interpreted as evidence of fairness and of an open mind. Do not antagonize or humiliate your colleague on the other side unduly. Many a lifelong enmity has been born in the court room.

Bear in mind that the sole purpose of cross examination is to stress points favorable to your opponent or to get you into a state of mind wherein you will contradict your previous testimony.

From the beginning of testimony be not eager to answer. Haste to answer direct examination contrasts very unfavorably with hesitation on cross examination. Do not too frequently ask the reporter to "read the question;" the jury may think you are "stalling for time," and probably you are.

You have the privilege of referring to your notes "made at that time" to refresh your memory. Reading from them, however, you may be in for a distressing few minutes rigidly safeguarded. Information received while engaged in actual care of a patient is inviolate except insofar as these restrictions may complicate terribly your cross examination. It is courteous to ask the judge for may be abrogated in insurance cases where a waiver is part of the contract, or in special cases where the Court will rule upon the matter. Information tending to injure the reputation of others may not be divulged. In certain circumstances or communities it will prove a protection to the doctor later if he asks to be subpoened even though he be willing to appear without it.

In examining a patient against interest prior to trial be certain that the patient knows for whom you are examining. Else on cross examination.

Rights of privileged communication are permission to refer; he may ask a few questions, but will usually give permission.

If the patient refuses examination or de-

clines to give history, courteously depart, making proper notations on your record. Do not argue or attempt to force the issue.

Never prior to or during trial discuss your testimony with outsiders, especially as to what the outcome should be.

In conclusion, and in brief the rules are simple. Remember your oath, to which might well be appended the words, "without fear or favor." Be fully prepared, be dispassionate, be deliberate and keep your temper.

REFERENCE

[1]Jones, A. B., and Llewellyn, L. J.: Malingering. London, 1917, page 109.

DIAGNOSIS AND TREATMENT OF TUBERCULOSIS OF THE ABDOMINAL CAVITY AND VISCERA*

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LAMAR

When this subject was assigned I did not feel competent to discuss treatment from the medical standpoint, and I hope the "T. B." men and internists will forgive me if most of my remarks are of a surgical nature. At first I thought a careful review of the literature and an expression of authoritative opinions would prove valuable. After being informed that there would be no discussion, I thought what a wonderful opportunity, without fear of combat, to review my own cases and present personal deductions.

Intestinal Tuberculosis

This condition exists in four forms: (1) ulcerating type; (2) cicatricial, resulting from healing of the ulcer; (3) the type that combines ulcerating hyperplasia with involvement of the peritoneum, mesentery and lymph nodes; (4) chronic hyperplastic tuberculosis.

For added interest I will describe a very typical case of the ulcerating type that I saw in consultation with one of your members (Dr. Gale). I later x-rayed the patient and had an opportunity to follow her hospital course for one year. Her symptoms were so classical that a brief description will be of interest.

Mrs. C. V., aged 27, had been suffering with pulmonary tuberculosis for three years. X-rays and sputum, both positive. Her pulmonary condition was not doing well and she began to complain of indigestion, attacks of diarrhea, much abdominal bloating and cramp-like pains. The above symptoms with characteristic x-ray findings should be sufficient to make a diagnosis of intestinal tuberculosis.

Those of you who are particularly interested in x-ray diagnosis will do well to refer to the Brown-Sampson technic. Time will not permit a detailed description. The presence of spastic filling defects, irregular contour, failure of the ileocecal region to retain barium, with generalized hypermotility are characteristic diagnostic x-ray findings. Most of these cases respond to general medical treatment; bed rest, heat therapy, cod liver oil, orange juice, tomato juice and a diet rich in vitamins A, C, and D.

These lesions are rarest in the duodenum, most common in the ileocecal region and less frequent as we approach the rectum. Surgical interest of this type lies in the fact that in healing, the lesions contract and intestinal obstruction may result. The lesion may perforate but inflammatory thickening of the serous coat usually prevents a rupture, although extensive adhesions to surrounding parts may result.

The hyperplastic type affords greater surgical interest, owing to the frequency of intestinal obstruction. The early symptoms are usually quite vague and indefinite; mild gastro-intestinal disturbances, frequently diarrhea, occasionally constipation; blood, pus and tubercle bacilli may be present in the stools; usually considerable bloating; a feeling of general abdominal discomfort and soreness. Later, when obstructive symptoms begin to develop, the previous discomfort or mild pain becomes colicky and violent in character. Food seems to aggravate the

*Read before the Pueblo County Medical Society April 23, 1935. The author has an extensive list of references available upon request.

pain. Vomiting is rare unless the obstruction is almost complete.

I have selected two interesting and instructive cases from my records. I confess with some embarrassment that I failed to make a diagnosis of my first case of ileocecal, hyperplastic tuberculosis.

About twenty-two years ago I saw a young man, aged 25, with no tuberculosis elsewhere. For sixteen months he suffered loss of weight, crampy, colicky pain with attacks of diarrhea, loss of appetite, no vomiting, much gas and indigestion. R. B. C. and hemoglobin, both low. W. B. C., normal. A distinct tumor the size of a baseball could be felt in the appendix region. I made a diagnosis of malignancy and told this patient it looked hopeless. Fortunately for the patient, he then consulted a thoroughly competent surgeon who made a correct diagnosis and advised surgical interference. My records do not state the type of operation. He later returned to me with a fistula at the site of operation, which was still draining two years later when he left the state. A newspaper notice informed me of his death about four years after operation.

This diagnostic error taught me three very valuable lessons. First, that I did not handle the case in a diplomatic manner; second, that hyperplastic tuberculosis may be very difficult to differentiate from malignancy, particularly in the ileocecal and sigmoid regions; and third, that a fistula may follow surgery. I felt a little better after I read an article by Seward Erdman in which he says: "Carcinoma of the cecum is very frequently confused with hyperplastic tuberculosis and the differential diagnosis may finally have to rest with the pathologist." However, a history of findings of tuberculosis elsewhere, the chronicity of the condition, a slowly developing tumor, early age incidence, and x-ray findings are valuable differential aids. Rarely tubercle bacilli can be found in the feces.

Hartman and Billroth made the statement that many patients in the past in whom an inoperable carcinoma of the ileocecal region had been diagnosed, as well as others who had been operated upon and recovered, were suffering from a localized tuberculous process.

The following is another instructive, and to me very valuable, case. At 7 p. m., June 7, 1930, a referring doctor phoned that he was bringing an intestinal obstruction to the hospital for immediate surgery. One hour later I saw a thin, emaciated, exceptionally sick looking woman, aged 40. Her tongue was dry and she was thoroughly dehydrated; R. B. C., 3,280,000; differential count, within normal limits; W. B. C., 17,000. The late Dr. Bloodgood called attention to the significance of leukocytosis in the diagnosis of obstruction with tuberculosis, and he further emphasized the unfavorable prognosis in most such cases. Urine, catheterized specimen, albumen one plus, casts and a very faint trace of sugar; heart, rapid; pulse, thready; a mitral presystolic murmur at the apex. Her blood pressure, systolic, was 110. This woman had been ill for several years, complaining of vague abdominal distress, gas, frequent attacks of diarrhea, and occasionally she had seen blood of a bright color. She did not give a history of pulmonary tuberculosis in early life. She has been hiccoughing and vomiting for the last twenty-four hours, fecal in character on admission to the hospital. The patient had steadfastly refused hospitalization until death seemed certain. Through a thin abdomen a distinct tumor could be felt in the left lower abdomen. Her condition was so grave that no further examinations were made. A diagnosis of hyperplastic tuberculosis or malignancy of the sigmoid was made, and owing to the hopeless outlook, surgery was not advised. Her son insisted that something be done, so reluctantly I consented. Under nitrous oxide I opened the abdomen and found a firm, hard, extremely adherent tumor of the sigmoid that would have been extremely difficult to remove. The anesthetist reported the patient as failing rapidly and that death seemed close at hand. A hasty colostomy was done and the patient's postoperative convalescence was extremely stormy for a few days, and then improved rapidly and she was able to leave the hospital in three weeks. The colostomy opening closed itself in about six months and the pa-

tient continued to improve. About this time she left the state to live with her daughter, who wrote me four years after operation that she was doing fairly well, had gained in strength and weight and was in better health than for several years. This being a fairly recent case, was chosen because it further emphasized a growing belief that I have had for a great many years: namely, that tuberculous patients stand surgery poorly, and that it should be reserved for those who are urgently and desperately in need of it; and that the minimum surgery that will offer relief or hope of cure be done.

There seem to be two surgical schools in regard to hyperplastic tuberculosis of the intestines. Some surgeons favor a resection and an anastomosis. Others think an anastomosis frequently all that is necessary. W. J. Mayo, in a personal communication to Masson, mentions seven cases of ileocecal tuberculosis which were so improved by a first stage lateral anastomosis that further treatment by resection was unnecessary. In the case just reported, the patient's condition was so desperately critical that a colostomy was all that could be done, and the results were gratifying. Laboratory report of a gland removed at operation designated tuberculosis.

Tuberculous Peritonitis

My interest and enthusiasm in this subject was first aroused when I was an interne assisting Dr. Freeman in an exploratory laparotomy. On opening the abdomen there was an escape of considerable clear fluid. The intestines and omentum were literally studded with tubercles. Dr. Freeman, always the excellent teacher, told me a lot about the condition. I recall distinctly that he said: "Nothing to do here, we will close the abdomen and hope for improvement." It did not seem logical to expect improvement, and I have often wondered, in a diagnostic exploratory operation, if improvement where nothing was done could not be attributed to the several weeks in the hospital, followed by a tuberculous regime, consisting usually of artificial heat or sunlight as suggested by Rollier, tomato juice, orange juice and a carefully selected, nourishing diet high in vitamins A, C and D. This type treatment is also particularly beneficial to intestinal tuberculosis of the ulcerative type. Of course we would anticipate favorable progress if the primary lesion, such as tubes or appendix, were removed. I do not think any harm could follow a ventured opinion, since I found twenty-nine suggested theories for improvement following simple laparotomy for tuberculous peritonitis.

In tuberculous peritonitis, the fallopian tubes, the appendix or ruptured mesenteric glands, in the order named, are perhaps the most common cause. Pain appears early, and those of you who are familiar with abdominal surgery under local anesthesia will realize why. The parietal peritoneum is extremely sensitive and these little tubercles cause friction in the beginning of the disease. After ascites develops the friction is lessened as well as the pain. Usually there is some soreness, considerable gaseous distention, and ascites.

Tubes and Uterus

Tuberculous salpingitis is one of the commonest intra-abdominal tuberculous lesions. It is generally considered a secondary infection from the blood stream, through the lymph nodes, or by contiguity from a nearby structure. The diagnosis is frequently very difficult to make and is usually suspected when we can rule out other inflammatory conditions, and have a history, or physical findings, or a tuberculous lesion elsewhere.

Tuberculosis of the endometrium is rare and the ovaries extremely rare. Conservative surgery should be practiced. If a tube is involved, do double salpingectomy always, but conserve the ovaries unless the pathology for removal is very definite. Quote C. H. Mayo: "There is no more need of removing the ovaries in tuberculosis of the fallopian tubes than there is in castrating the male in case of tuberculous epididymitis." It is seldom that a hysterectomy is definitely indicated on this type patient.

It might be of interest to mention that tuberculosis of the cervix is extremely rare. Kelly states that it occurs in no more than 3 or 4 per cent of cases of pelvic tuberculosis. Ridlon and Douglas state that less than 20 cases of undoubted primary tuberculosis lesions in the cervix have been recorded.

Another case seen in consultation with one of your members was a Mexican, aged 24, complained of pain in the lower abdomen and irregular menses and sterility. Physical impairment began about the time the patient was married, two years previously. At first she had only vague lower abdominal pains and irregular, painful menses. No discharge was noticed then or since. The pain became gradually worse and more constant, until for the previous two months she had been unable to be up except for short periods of time. Last menstrual period, two months before; flow scanty and of short duration. Married two years without pregnancy. No recent loss of weight, but she had always been thin. She did not remember having had an acute attack of pain. Past history gave no information about the cardiorenal or G. I. systems. General appearance: A young Mexican female, quite emaciated, as if suffering from some chronic, debilitating illness. Chest, asthenic, expansion equal, no dulness to percussion. Increased breath sounds in right axillary region; no rales or friction. The abdomen is flat; no tenderness, masses or rigidity. On pelvic examination the cervix was nulliparous and flat. Uterus, small and displaced to left by right pelvic mass which seemed cystic in character and firmly bound to pelvis.

At operation the following pathology was found: Right kidney had a normal excursion; right ureter felt a little thickened; left kidney excursion, a little larger than normal. Stomach and duodenum, negative. Under surface of liver, smooth. Omentum and intestines, studded with tubercles. The right tube greatly thickened and covered with small, firm nodules, containing caseous material. Right ovary, large, cystic and filled with clear serous fluid. Left tube, bound down firmly, nodular and involved in tubo-ovarian mass. Uterus was small, firm and uninvolved. Intestines firmly adherent to both pelvic masses.

There are several valuable lessons in the above pathology: First, the tubes were apparently the primary focus of infection; one ovary was cystic and the other normal; the uterus was not involved; and that a fairly extensive general tuberculous peritonitis was present. This whole pelvic mass was very firm and adherent to the surrounding intestines. Usually by very careful dissection the diseased tissues can be removed without danger to adjacent structures. In this case the right cystic ovary, the right and left tubes were removed and the abdomen closed without drainage. The patient but after a week she showed steady and showed considerable reaction to surgery, continuous improvement, leaving the hospital in seven weeks, greatly benefited. The laboratory report disclosed tuberculosis of the tubes.

Weimer asserts that many cases operated upon for appendicitis, with inflammatory exudate about the cecum in which the pathologist finds only a chronic inflammation, later develop intestinal tuberculosis. Reliable statistics show that tuberculosis occurs in about 1.3 per cent of cases where routine examination of all appendices removed for other conditions, principally acute appendicitis, is made. In my three cases the symptoms were typical of acute appendicitis; there was no suspicion about the gross pathology except in one case having probably more induration in the wall of the cecum than the pathology in the appendix would suggest. The true nature was not discovered until the microscopic report was heard from. All three cases made an excellent recovery and never had any further trouble.

In order to make this paper cover the assignment, it was necessary to abandon my records and make a search of the literature for the rare cases that are of scientific and academic interest.

Tuberculosis of the Gall Bladder, Bile Ducts and Liver

My informant states the diagnosis has never been made before operation, and that infection takes place either by the blood stream or through the biliary passages, and that up to 1911 seven cases had been reported in the literature.

Primary Biliary Tuberculosis: Many authorities have considered that tuberculosis of the biliary passages is always secondary from an invasion of tubercles in the vicinity and that there is no primary tuberculosis of the biliary passages.

Liver: Tuberculosis of the liver is a rare malady, and when found is usually a part of a generalized miliary tuberculosis.

Stomach

Broders states: "Tuberculosis of the stomach was encountered only once in a series of 2,501 gastric operations in the Mayo Clinic in the years 1912 to 1915, inclusive." He also says: "Gastric tuberculous lesions have practically the same gross and microscopical appearance as tuberculous lesions of the intestines, and no case of tuberculosis of the stomach has been absolutely proved to be primary in the stomach."

Spleen

Tuberculosis of the spleen very rarely attracts clinical recognition, though it occurs not uncommonly as a part of a widespread tuberculous infection. Primary tuberculosis is rare, though its existence would seem indisputable. It is chiefly when the enlargement of tubercles is combined with undue mobility of the gland, that the patient is attracted to the gland.

Conclusion

These patients do not stand surgery well, and it should be employed only when no other alternative offers relief and improvement. Every preliminary consideration should be employed. Patients should be alkalinized and fluids forced. Every precaution is used to prevent shock. Keep the patient warm on the table. Administer glucose and salines early. Finally, most important of all, the anesthetic problem: I can sense a smile among my surgical friends when I say that only two anesthetics should be used: local, or nitrous oxide and ethylene.

CASE REPORTS

CHRONIC GASOLINE POISONING

REPORT OF TWO CASES

FREDERICK LEMERE, M.D.*

According to Henderson and Haggard[1], the composition of ordinary commercial gasoline is as follows:

A. Benzine—a group of paraffin hydrocarbons distilled from crude petroleum; and

B. Benzene (Benzol)—an aromatic hydrocarbon distilled from coal tar.

From 20 to 90 per cent of benzene is added to the petroleum distillate for economic and technical reasons. Benzene is more toxic than benzine, and a concentratiton of 1 per cent may be fatal if inhaled for longer than forty-five minutes[2].

Sources of Poisoning

The great majority of cases of chronic gasoline poisoning arise from the inhalation of fumes. A concentration of 1 per cent gasoline vapor is toxic even when inhaled for a short time[3]. Exposure is especially apt to occur in garages, the petroleum industry, dry cleaning, and the rubber and paint industries using gasoline as a solvent.

Gasoline may also be absorbed through the skin in industrial poisoning. It may be taken orally by mistake as in a case reported by Schwarz[4]. There have been a few instances of addiction to gasoline[2] including a child who was brought to the Child Guidance Clinic of the Colorado Psychopathic Hospital because of the habit of inhaling fumes from the gas tanks of automobiles.

Symptoms of Chronic Poisoning

There are relatively few cases of chronic gasoline poisoning reported in the literature. A review of these reports and the meager descriptions in textbooks, however, gives the following symptoms as characteristic:

Gastro-intestinal—poor appetite with abdominal pain, nausea, and vomiting.

Hematolytic—anemia with weakness, a dull heavy feeling in the head, dizziness, and occasionally hemorrhagic purpura into the skin and other organs.

Neurological—neuritis with paresthesias, paresis, and paralyses, tremor, ataxia, nystagmus, slurred speech, retrobulbar neuritis, and cranial nerve paralyses.

Psychiatric—anxiety, sleep disturbances, depression or euphoria, amnesia, confusion, and a chronic mental condition resembling feeble-mindedness.

Occasionally acute poisoning may leave permanent residual neurological changes. Dorner[5] reports a case in which chronic spinal cord disease developed seven months

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after poisoning. Stiefler[6] describes a case of epilepsy developing four months after poisoning.

CASE NUMBER ONE

C. B., white man, aged 56, admitted with his wife on the complaint of neighbors that they were demented. Two weeks previously they had been found without food and unable to care for themselves. The patient was having epileptic seizures while his wife had repeated attacks of unconsciousness and paralysis. Both were confused, irrational, and acted as if intoxicated, although there were no evidences of alcoholism.

Relatives stated that the patient and his wife had shown mental changes of irritability, suspiciousness, and seclusiveness for at least eight years. This was contrary to their usual sociable and cheerful dispositions. The patient had had epilepsy for six years and three years before admission had lost all his property because of judgment defects. Two months before admission both the patient and his wife had shown evidence of ataxia and had refused help from neighbors and relatives.

Additional information from neighbors revealed that the patient had been a tailor for at least twelve years. It was customary for him to press gasoline cleaned clothes in his small apartment and the fumes often caused him to feel that he was floating in the air and he would lose consciousness. Gasoline had also been used for cooking and illumination and neighbors had complained frequently during the twelve years of fumes emanating from the patient's apartment.

Physical Examination: A 56-year-old white male in fair general nutrition. Physically essentially negative except for a slight inflammation of the pharynx, a moderately enlarged heart with a slight degree of arteriosclerosis, and a blood pressure of 150/100. There were small petechial hemorrhages into the skin of both lower extremities. Neurological examination was negative except for ataxia, slurred speech, and peripheral nerve pain. The optic discs were paler than normal. Because of inability to cooperate, visual fields could not be obtained.

Mental Examination: The patient was confused, disoriented, and irrational. He had delusions of persecution and was at times combative. He said he was "directing a huge orchestra" and was euphoric with a tendency towards preservation and circumstantiality. There were marked sensorium changes with partial insight.

Laboratory Examinations: Urinalysis, acid, 1.026, 1 plus granular casts, and 1 plus R. B. C. Feces, negative for lead. Blood count, Hb. 13.2 gms., R. B. C. 4,100,000, W. B. C. 9,350, Poly. 80 per cent, Lymph. 20 per cent, R. B. C. negative for lead. Blood chemistry, Sugar 104, T. N. P. N. 38, Urea Nitrogen 18, CO_2 combining power 50, Cholesterol 190, Methemoglobin negative, Bromide negative. Blood Wassermann and Eagle, negative. Spinal fluid, Wassermann reaction negative, gold curve negative, protein 65, sugar 80, cell count 2.

CASE NUMBER TWO

E. B., white woman, age 47, wife of patient in Case 1. The history of the wife was essentially the same as that of her husband. She helped him with his work and was equally exposed to gasoline fumes. Before admission to the hospital, she had had two "strokes" with loss of consciousness and incontinence.

Physical Examination: White woman of 47, in fair state of nutrition. Physically essentially negative except for a slight degree of arteriosclerosis with a blood pressure of 145/90. There was a paling of both optic discs with sluggishly reacting pupils. Neurological examination showed paralysis of the left third cranial nerve. There was hyperesthesia of the extremities, slurred speech, hyperactive reflexes, except for absent abdominal reflexes. The Hoffman reflex was positive bilaterally and there was a positive Romberg with falling to the left.

Mental Examination: The patient presented a florid, almost alcoholic facies, and there were peculiar purposeless jerking movements of the extremities and the head. She was euphoric, ataxic, and extremely confused and disoriented. She was irritable and delusional, believing that her life was being theatened.

Laboratory Examinations: Urinalysis (catheterized), acid, 1.023, 1 plus albumin, 1 plus pus cells. Feces, negative for lead. Blood count, Hb. 12 gms., R. B. C. 3,610,000, W. B. C. 11,850, Poly. 87 per cent, Lymph. 13 per cent, R. B. C. negative for lead. Blood chemistry, Sugar 116, T. N. P. N. 30, Urea Nitrogen 15, CO_2 combining power 54, Cholesterol 173, Methemoglobin negative, Bromide negative. Blood Wassermann and Eagle, negative. Spinal fluid, Wassermann reaction negative, gold curve negative, protein 45, sugar 91, cell count 4.

Comment

Inasmuch as these two cases were within the arteriosclerotic age bracket, this has to be considered as a possible etiological factor. The mental symptoms of euphoria, expansive delusions, and combativeness, however, combined with slurred speech, ataxia, polyneuritis, and evidences of secondary optic neuritis all suggest a toxic rather than gasoline poisoning would also be against an arteriosclerotic etiology. The onset eight years previously and the direct evidence of arteriosclerosis.

Very little is known concerning the pathology of gasoline poisoning except that it has a lipolitic action on the blood and nervous system. The benzene fraction primarily affects the blood resulting in a low blood cholesterol, secondary anemia, leucopenia, and thrombopenia associated with purpuric hemorrhages. The benzine fraction seems to act predominantly on the nervous system and apparently was responsible for most of the symptoms in the two cases reported.

That gasoline intoxication is relatively more severe in women[7] is well borne out in these two cases. A follow-up report from the Colorado State Hospital where the patients were committed states that the wife died two months after admission while her

husband survives in an extremely deteriorated condition.

Summary and Conclusions

1. The literature on chronic gasoline poisoning is scattered and inadequate, especially as regards pathology.

2. Gasoline contains, in addition to benzine (a petroleum distillate), from 20 to 90 percent benzene (a coal tar distillate).

3. Benzene has a lipolitic action on blood while benzine primarily affects the nervous system.

4. The symptoms of chronic gasoline poisoning are associated with anemia, diffuse neurological changes, and toxic-organic psychotic manifestations.

5. Two cases of chronic gasoline poisoning are presented.

REFERENCES

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[2]Leschke, E.: Clinical Toxicology. Baltimore: William Wood and Company, 1934.

[3]U. S. Department of Interior, Bureau of Mines, Technical Paper 272, 1921.

[4]Schwarz, H. G.: "Über chronische Benzinvergiftung," Deutsche med. Wchnschr, 58:449, March, 1932.

[5]Dorner, G.: "Acute Benzinvergiftung mit nachfolgendes spinaler Erkranung," Deutsche Ztschr. f. Nervenh., 54:66, 1915.

[6]Stiefler, G.: "Epilepsie nach Benzinvergiftung," Wein. med. Wchnschr., 78:938, July, 1928.

[7]Feil, A.: "Les intoxications professionnelle par la benzine et le benzol," Presse Méd., 40:1973, 1932.

THE COLON

The following statements are made in order that we may go on record preliminary to the detailed publication. A Denver Radiologist seems to have definitely established the relationship between nasal accessory sinusitis and peribronchial disease. It appears probable also that the descending infection from diseased sinuses does not end at the diaphragm but continues into the abdomen and causes a cague syndrome referable especially to the large bowel. We recommend, in obscure cases, that all patients requiring an x-ray examination of the gastrointestinal tract, have films of both the chest and sinuses.

In order to speed the final recognition of this relationship we would be pleased to have the cooperation of everyone employing the x-ray in gastrointestinal diagnosis.

The average normal colon should theoretically equal, in length, the height of the body and should contain, when fully distended, two quarts. In order to make a comprehensive study of the large bowel both a barium meal and an opaque enema should be used. The ingested meal depicts the natural non-distending behavior of the gut. It shows the degree of spasticity especially with regard to the reaction of the autonomic nervous system. Local spastic manifestations are found in the cecum, near the spine on the left side, and in the proximal sigmoid. Local spasms are quite significant and account for various vague symptoms. Spasms in the cecum suggest subacute appendicitis, ilio-cecel incompetency or tuberculosis.

The term "spastic colitis" is explanatory but not really scientific. If the haustra are ragged and roughly irregular around their borders, and definitely more in number than the average, a true colitis is present whether or not accompanied by constipation. Mucous in the stool may accompany colitis either homogeneously mixed with the evacuated material or, as in the so-called "mucous colitis," in the form of a cast of the bowel. The latter may be but a few millimeters or many centimeters in length. The "string" sign, indicative of mucosal hypertrophy or edema, attends either type of mucous colitis.

Duplications of loops of the colon are best shown by the opaque enema. Obstipation verging upon occlusion is thus explained. The normal large bowel receives the enema by complete dilatation as the mixture is injected. In the diseased colon, the mixture advances more rapidly without lumen distention. The dilatation takes place after the head of the column has advanced, in most cases, as far as the middle of the descending colon, or to the splenic flexure. This behavior is designated "retroportation."

Retroportation occurs in those individuals who ignore the urge to evacuate the rectum or in those whose rectal sense is dulled or absent. The sigmoid is the convenient fecal storehouse and the rectum is the intolerant recepticle. The normal rectum warns the person when it becomes filled. The rectal capacity is often increased in chronic constitpation because of either neglect or lessened rectal sense.

F. E. D.

Mid-Summer Radiological Conference in the Rockies, August 4, 5, and 6, 1936. Denver.

Scratch tests are of little or no value in detecting food allergy in skin diseases.—Illinois Medical Journal.

We know little more how to prevent renal stones than did Hippocrates or Bence Jones.—Journal of Urology.

Medical Organization

1937 Meeting Plans Move on Apace

WITH an enthusiastic vote of approval, the New Mexico Medical Society on May 7, 1936, joined officially with the Colorado State Medical Society as co-sponsor of the joint Rocky Mountain medical conference to be held in Denver in the summer of 1937.

This marks the first opportunity one of the invited state medical societies has had to take formal action through its House of Delegates, and augurs well for action by those other states which so far have considered the matter only informally.

Dr. George P. Lingenfelter, Chairman of the Invitation Committee and fraternal delegate to the New Mexico Society, presented the invitation to New Mexico's House of Delegates, assisted by the Executive Secretary of the Colorado Society. Plans were discussed in such detail as was possible at this early date. The New Mexico Society wished assurance that joining in such an enterprise would not interfere with that society's membership in Southwestern Medical and Surgical Association, which was freely given. General approval of such parts of the plan as were presented in these columns in last month's issue of Colorado Medicine was apparent.

The action of the New Mexico House of Delegates included instruction to the incoming President, Dr. M. B. Culpepper of Carlsbad, to appoint a committee to work with the committees of other participating states in preparing exact details of the meeting, including its program. President Culpepper announced that he would name the committee within the next few weeks.

We welcome New Mexico into this endeavor for a closer scientific, economic, and social union of the Rocky Mountain medical societies!

Colorado Attendance At Kansas City

THE fondest hopes of organization leaders in Colorado were exceeded by the attendance figures at the American Medical Association Annual Session in Kansas City last month. The official total of 207 registered Fellows from Colorado, a smashing all-time record in itself, does not tell the whole story. In addition there were twenty-six Colorado women who registered as members of the A. M. A. Auxiliary. To our knowledge there were nine Colorado physicians present who did not register. Several exhibitors from Colorado, and the Executive Secretary of the Society, bring to more than 250 the known total of those taking part from our state, and no doubt there were at least another twenty-five wives of doctors who did not register with the Auxiliary. The Colorado Society operated one special train and additional special Pullmans to the meeting, despite the many who drove in their automobiles or who had to journey by rail on schedules other than those of the specials. State medical societies twice, three, and four times the size of our own made no such showing.

Colorado may well be proud of its showing. Approximately 20 per cent of the membership of the Colorado Society attended the Kansas City sessions. We doubt if any but the host societies, Missouri and Kansas, can boast such a record. Of Colorado's twenty-eight county and district medical societies, twenty-two were represented in Kansas City.

Following is the list, by towns and cities, of those Colorado physicians whose names appeared on the official registration lists published by the American Medical Association. The list includes only those officially registered.

Akron
Crawford, M. L.
Alamosa
Davlin, C. A.
Boulder
Bonham, Claude D.
Gilbert, Warren M.
Nethery, Robert Dale
Spencer, Frank R.
Brush
Hildebrand, Paul R.
Lusby, A. C.
Burlington
Robinson, M. E.
Byers
Lorimer, Hugh F.
Canon City
Holmes, Raynor E.
Shoun, D. A.
Wyatt, Kon
Cheyenne Wells
Myers, L. N.
Cortez
Johnson, E. E.
Cripple Creek
Hassenplug, Will F.
Crook
Rasor, H. R.
Colorado Springs
Boyd, George A.
Brady, E. J.
Brobeck, V. H.
Brown, James H.
Chapman, E. N.
Crouch, J. B.
Draper, Paul A.
Forster, A. M.
Giese, Chas. O.
Gilbert, George B.
Gilmore, G. B.
Good, Brooks D.
Goodson, H. C.
Gydesen, Carl S.
Knowles, T. R.
Liddle, E. B.
McClanahan, Z. H.
McCorkle, Harry B.
Mullett, A. Dan
Murphey, Bradford J.
Neeper, Edward R.
Richmond, C. L.
Service, William
Timmons, E. L.
Del Norte
Gjellum, A. B.
Denver
Ambler, J. V.
Amesse, John W.
Anderson, Cyrus
Bane, William M.
Barnacle, Clarke
Beyer, Theodore E.
Blickensderfer, G. M.
Bluemel, C. S.
Brinton, Wm. T.
Burnett, Clough T.
Carmody, T. E.
Carpenter, Fred
Chernyk, Maurice
Childs, Samuel B.
Chisholm, Archibald J.
Clarke, Horace B.
Cohn, Maurice L.
Coleman, O. E.
Condon, William B.
Cooper, Claude E.
Cooper, Clyde J.
Corper, H. J.
Cotton, George K.
Craig, Alex C.
Crisp, William H.
Crosby, Leonard G.
Cunningham, T. D.
Darrow, C. H.
Dart, M. O.
Delehanty, Edward
Dickson, Logan M.
Dickson, R. W.
Doty, David A.
Dumm, Byron I.
Durbin, Edgar
Earley, A. H.
Ebaugh, Franklin
Elrick, Leroy
Faust, Louis S.
Foster, John M., Jr.
Foster, Wm. B., Jr.
Fowler, Harmon L.
Frank, Lorenz W.
Fraser, M. Ethel V.
Gauss, Harry
Gengenbach, F. P.
Gillen, George H.
Gordon, Robert W.
Halsted, Fred S.
Harvey, Horace G.
Heusinkveld, Gerrit
Hickey, Harold L.
Hillkowitz, Philip
Hix, Ivan Edwards

Hopkins, John R.
Hutchison, James E.
Hutton, Jack G.
Jackson, Edward
Jaeger, J. Rudolph
Jeurink, V. G.
Jones, Wiley
Kemper, C. F.
King, W. W.
Kretschmer, Otto S.
Krohn, M. J.
Lannon, A. R.
Lipscomb, John M.
Macomber, D. W.
Main, George C.
Mason, Lyman
McCaw, John A.
Minnig, Arnold
Morian, C. H.
Mugrage, E. R.
Murphy, Rex L.
Netherton, George F.
Perrin, J. Burris
Philpott, Ivan W.
Pratt, Elsie Seelye
Robinson, Lloyd W.
Rothwell, William D.
Ryan, John G.
Sams, Louis V.
Shields, James Melville
Smith, R. G.
Stephenson, Frank B.
Tepley, Leo V.
Vadala, Anthony J.
Verploeg, R. H.
Walker, Charles E., Jr.
Walton, James B.
Wasson, W. W.
Weinstein, S. S.
Wilcox, Henry W.
Williams, George Z.
Winemiller, L. H.
Withers, Sanford
Yegge, Wm. Bernard

Durango
Burnett, A. L.
Darling, J. C.
Elliott, W. M.

Eaton
Holden, E. G.

Edgewater
Bailey, George P.

Englewood
Work, Hubert

Erie
Bixler, C. W.

Fort Collins
Cram, V. E.
Garrison, G. E.
Hartshorn, Fred H.

Fort Lyon
Blanton, M. E.

Fort Morgan
Richards, R. B.

Frederick
McCabe, Fordyce

Grand Junction
Taylor, A. G.

Greeley
Madler, N. A.
Mead, Ella A.
Porter, Robert L.
Ringle, C. A.
Weaver, J. A., Jr.
Wilmoth, T. C.

Holyoke
Means, F. M.

Johnstown
Jones, Glenn A.

Julesburg
Folsom, C. H.

Lafayette
Braden, J. M.

La Junta
Calonge, Guy E.

Lamar
Burnett, N. M.

Las Animas
Fickel, William H.

Leadville
Strong, James C.

Limon
Laverty, Lucius Frank

Longmont
Matlack, J. A.

Louviers
Dumke, Chas. E.

McPhee
Speck, Richard T.

Ordway
Desmond, William

Ovid
Peterson, A. E.

Pierce
Mitchell, David M.

Portland
Davis, T. A.

Pritchett
Bryant, W. A.

Pueblo
Black, Herbert A.
Craighead, Joseph W.
Earnest, Clarence
Farley, John B.
Finney, Royal H.
Heller, Frederick M.
Hopkins, Guy H.
Houchins, E. K.
Ireland, Paul M.
Low, Harold T.
Luqueer, F. A.
Maynard, C. W.
Myers, George M.
Norman, J. Sims
Streamer, C. W.
Taylor, R. A.
Unfug, George A.
Ward, L. L.
White, Jesse W.
Woodridge, J. H.

Sterling
Daniel, J. H.
Rogers, Thurman

Stratton
Cavey, J. E.

Trinidad
Espey, James G., Jr.
Freudenthal, Alfred
Newburn, W. L.

Walsenburg
Lamme, James M.

Wheatridge
Masten, A. R.

Wray
Buchanan, Lawrence D.

Yuma
Flaten, A. P.

A DOCTOR'S WIFE VIEWS THE A.M.A. CONVENTION

I have seen the lords of medicine in flux, perhaps six thousand of them. As my husband slowly makes his way to the registration booth, clutching his fortieth A.M.A. membership card, I watch the changing throng. No shoving, no impatience, everyone friendly.

What drew them here? A spring holiday in a vital American city? A change for a few days, laxity with no gossipy patients to supervise? A chance to get a boost by meeting new doctors? A bit of local advertising? A genuine desire to see the marvel of new instruments, to gain suggestions from specialists? Perhaps a mixture of motives, but whatever they are seeking, it must be here. It is a wonderland to a member of the laity.

The huge auditorium is like a World's Fair. More than two hundred firms display their wares. There are shimmering instruments in endless array, magic shears that cut a plaster cast as though it were warm butter, a tiny instrument that pierces a bone like a needle through chiffon, x-ray machines with their gigantic bubbles of tubes and their pictures, priceless etchings. A picture of a skull is so natural you almost dodge. Here a respirator like a huge green racquet case with a blonde, waved head protruding from it; and not only instruments, but the latest styles in foods and drinks are here. A startling sign begs you to "drink a ripe banana." Canned milk processes are shown in faithful miniature, with tiny cans that would make a neat filling for a tooth. One company's cow is the center of bated attention—a perfect replica, for its tail swings, it "bats its ears," winks its eyes, turns its head and gives a convincing "moo-o-o." All is so clean and alluring one is tempted to buy wares for which one has not the slightest use.

All the famous pharmacy companies are represented, with displays of gleaming chromium and modern glass. There are enormous book stalls around which hover bespectacled, serious men. And up and down these aisles of new knowledge surge the reason for it all—the doctors of America. Not "Men in White," but almost universally "Men in Gray."

You notice the beautifully groomed old gentleman with the derby and cane—a hunchback, but his mind looks unusually straight—that little Jew who looks as if he had just left an old-world Ghetto, tiny, ship-faced, with too large a hat and a dragging raincoat. I study the young men, they are so business-like in appearance. They might be super-salesmen or professors, but not doctors. They seem tight-mouthed, very assured. I can't imagine going to them, yet, in time of mental stress. They still feel they know most of "the answers." The old men are tight-lipped, too, for medicine demands that decisiveness, right or wrong. Yet their faces reflect sympathy and tolerance. They seem to have learned that life is a pretty muddled business, and that no one answer fits more than one case.

The young wives look well groomed, snappy, and very demanding. A group of them stop near me. "Let's go somewhere for a cocktail and dance." "But we want to hear the surgical lecture," argues a husband. "Then what do you think we are going to do?—Come on!"—and they came! Will they, as we older wives, sometime learn to live alone? Will they learn to give up dinners and trips because someone needs their husbands? For their own happiness I pray that they may so learn, for the practice of medicine has a spiritual basis, and the essence of it is sacrifice.

Neither modern mechanical marvels nor new knowledge can ever substitute in time of deep suffering and sorrow for the gentleness of an understanding doctor.

GRACE HASSENPLUG.

COLORADO OTOLARYNGOLOGICAL SOCIETY

At the Annual Meeting of the Colorado Otolaryngological Society held Saturday, May 2, 1936, in Denver, the following officers were elected for the Society's 1936-1937 year: President, Harold L. Hickey, M.D., Denver; Secretary, Herman I. Laff, M.D., Denver; Treasurer, Harry L. Whitaker, M.D., Denver.

Obituary

J. O. Hardy

Dr. J. O. Hardy of Las Animas passed away unexpectedly from angina pectoris on April 21. His closer friends had realized for some time that his health had lost ground in recent years, but no one anticipated the untimely end. He was born in Bonn, Ohio, 68 years ago, later lived in Missouri and came to Colorado 35 years ago. The part he took in his community life and his splendid work as a physician had endeared him to hundreds of friends.

Dr. Hardy is survived by his widow, three sons, Harry of Bombay, India, John in Phoenix and Frank in Tucson, Arizona, and two brothers, Drs. John and Moses of Sumner, Missouri.

Gregory E. Ehrenburg

Dr. Gregory Eli Ehrenburg, 64, nationally-known specialist in tuberculosis, died May 10, of a cerebral hemorrhage, at the Jewish Consumptive Relief Society sanatorium, where he had been a resident physician since coming to the U. S. in 1923.

Although Dr. Ehrenburg gained wide-spread recognition for his research work in recent years, his career reached a greater peak in the turbulent days that preceded and followed the Russian revolution.

His fame in Russia came chiefly from his pioneer activities in socializing medicine. He was assigned to direct all medical units at the munitions plants of the country and in that undertaking introduced many ideas which are now generally accepted in industrial and social medicine.

He is survived by his wife, Mrs. Amelia Ehrenurg, and two sons, David and Anatole, all of Denver.

WOMAN'S AUXILIARY

HIGHLIGHTS OF THE ANNUAL CONVENTION OF THE WOMAN'S AUXILIARY TO THE AMERICAN MEDICAL ASSOCIATION

The fourteenth annual convention of the Woman's Auxiliary to the American Medical Association was held in Kansas City, last week. The convention was opened by the president, Mrs. Roger N. Herbert of Nashville, Tenn. Mrs. Herbert, the youngest president of the Auxiliary, made one feel her efficiency and force, reporting a fine year of growth and development. She visited thirty states and kept all expenses within the budget. A membership of about 15,000 was reported, thirty-nine states organized, New York just coming in with three auxiliaries, one with about 1,000 members. Maine and Montana are being organized, Vermont, Connecticut and Rhode Island asking for organization. Forty-four new auxiliaries were added last year in twenty-six states. Largest increase was in Pennsylvania and next largest in Missouri.

State reports were interesting, showed progress and growth in work and interest, and showed the auxiliary was taking a very active and important part in public health and education.

A registration of over 1,200 women set a record of attendance. This does not include the large number of women who were visitors and guests.

At the opening meeting a fine message was read from President Roosevelt, making the second time the auxiliary has been honored by the White House, President Hoover having done so. Governor Landon in his speech Tuesday night also recognized the auxiliary. At the luncheon honoring the national officers, Dr. Bauer was the speaker. He talked on Public Health and the part Hygeia plays in it. He stressed the importance of the material in Hygeia as an education against quackery and that it interprets to the laity what the medical profession is doing and attempting to do towards public health and preventive medicine. He spoke of the fine work the auxiliary is doing in placing Hygeia where most needed.

At the annual luncheon, messages were given by Dr. McLester and one was given for Dr. Mason. Dr. Fishbein talked on the growth in numbers, efficiency and usefulness of the Auxiliary to the A.M.A. Dr. Perry Bramberg, of Vanderbilt University in Nashville, Tenn., gave a most illuminating address on the Trends of Modern Medicine, stated that there were great changes coming in the administering of health and medicine, we must recognize it, and plan and work how to meet these changes to the best advantage.

At this luncheon were incoming officers. The new president is Mrs. Robert E. Fitzgerald of Wisconsin. She, too, is quite young, has great energy, poise and capability. In fact, one is impressed with the youth of the officers, not too young, but of the most efficient and enthusiastic age.

Mrs. August Kech of Altoona, Pa., was elected president-elect and will make a fine president to follow Mrs. Fitzgerald.

Mrs. Herbert said in closing that recently a column had been discovered in the state capitol building of Tennessee. On examination it was found to be made up of thirteen marble wreaths, beautifully carved, laid one on top of the other. From records it was learned that these wreaths represented the thirteen colonies. Each wreath was a part of the whole. So is each unit of the auxiliary a part of the great whole. In this convention perhaps not much definite aid or help especially for those who are doing the work of the committee is gotten. But an inspiration and realization of what is being done and what can be done enthuses one and makes one more anxious to carry one to greater achievements. One realizes that while each one is only a small cog in the whole, yet each county and each state make a great organization. To be trite, the chain is only as strong as its weakest link, let none of us be that weak link.

ALICE M. McCAW,
Delegate.

President-elect for Colorado.

A TRIBUTE, GRACE McCLELLAN SMITH

To Grace McClellan Smith, who passed away March Thirtieth, 1936, the Colorado Auxiliary wishes to pay tribute because she was one of its founders and a most beloved member.

At the state meeting in Colorado Springs in 1922, several women were inspired with the idea of an Auxiliary. Mrs. Smith invited the doctors' wives to be her guests at a breakfast in the Antlers Hotel to suggest organization. Later that day the first meeting of the Woman's Auxiliary to the Colorado State Medical Society was held. Officers were elected and plans laid for the fu-

ture. Mrs. Smith refused the presidency until 1925, maintaining that the beginning of the Society needed a president from Denver in order to have more efficient cooperation owing to numbers to carry on the work.

At this time the National Auxiliary was coming into being. Mrs. Smith realized from the first the importance of a national organization and saw possibilities of great attainments. Mrs. Smith attended all national meetings for many years and became one of the auxiliary's best workers. The offices she held are as follows:

Parliamentarian—1923-1924.

Re-elected—1924-1925.

Chairman of Entertainment Committee—1925-1926.

Member of Special Advisory Committee—1925-1926.

Fourth Vice President—1926-1927.

In 1923 it was Mrs. Smith who proposed the 25 per cent per capita tax to be paid by the states to finance the national auxiliary.

Mrs. Smith was born and lived her early life in Pennsylvania, graduating from Westminster College in Pittsburgh. Soon after her marriage to Dr. Harry Smith they removed to Delta, Colo., where they lived until a few years ago, when they moved to Whittier, Calif. Mrs. Smith was also a member of the national society of the Daughters of the American Revolution. She was an intellectual and cultured woman. She had great strength of character and courage of her convictions. Her interest in the work of the state and national auxiliaries never waned. Only last year she traveled alone from coast to coast to attend the meeting at Atlantic City. Of such staunch characters is our great organization made. And we, the old-time friends and members of the Woman's Auxiliary to the American Medical Association, wish to honor the memory of Grace McClellan Smith.

MRS. FRANKLIN P. GENGENBACH.

MEDICAL SOCIETIES

COLORADO OPHTHALMOLOGICAL SOCIETY

January 18, 1936

DR. W. H. CRISP, PRESIDING

Drs. C. E. Walker, Jr., W. M. Bane, and A. Ravin presented a case of dystrophia myotonica with cataract.

Drs. Walker and H. W. Shankel presented a case of epibulbar neurofibroma, or vernal catarrh.

Drs. Bane and Shankel presented a case of bilateral coloboma of the iris, lens, retina and choroid.

Dr. W. A. Ohmart presented for diagnosis a case of exophthalmos and central scotoma due to hyperthyroidism or retrobulbar tumor.

Dr. M. E. Marcove reported a case of dinitrophenol cataract.

GEORGE H. STINE,
Recorder.

CROWLEY COUNTY

The Crowley County Medical Society held its regular meeting April 17, at the Deaconess Hospital in Ordway. Dr. J. A. Hipp was the principal speaker, and read a paper, "Biological Observations in Everyday Practice," which was followed by a round-table discussion led by Dr. N. B. Newcomer of Denver. There were guests from Pueblo and Otero County Societies. Light refreshments were served by the hospital.

WM. M. DESMOND,
Secretary.

* * *

LARIMER COUNTY

The Larimer County Medical Society held its regular meeting May 6. Doctor Nolie Mumey of Denver was the guest speaker and gave an illustrated lecture on the "History of Medicine." Doctor E. Miner Morrill was voted into the Society at this meeting.

THAD C. BROWN,
Secretary.

* * *

DELTA COUNTY

A discussion of "Professional Ethics" was led by Dr. E. R. Phillips at the regular meeting of the Delta County Medical Society held April 24 in Dr. Cleland's office at Delta. Dr. A. E. Miller, formerly of Delta and now residing at McAllen, Texas, was elected an honorary member of the society.

* * *

PUEBLO COUNTY

Mrs. John B. Farley was elected president of the Woman's Auxiliary to the Pueblo County Medical Society for the coming year at its regular meeting held May 4, 1936, at St. Mary's Hospital.

Mrs. Farley succeeds Mrs. J. H. Woodbridge as president of the auxiliary.

Other officers elected were: Mrs. R. C. Robe, vice president; Mrs. E. H. Steinhardt, secretary; Mrs. E. H. Corry, treasurer, and Mrs. C. W. Maynard, auditor.

Members of the group met May 4 to sew for the pediatric ward at St. Mary's. Meetings are held once each month.

DR. CARL MAYNARD HONORED

Dr. Carl W. Maynard of Pueblo was signally honored, and with him the profession of Colorado, when he was chosen President-elect of the American Society of Clinical Pathologists at that organization's recent annual meeting, held in Kansas City in conjunction with the Annual Session of the American Medical Association. Dr. Maynard will be installed as President at the next annual meeting, in June, 1937.

When any congenital anomalies of the urinary tract are present, the individual may reach adult age without having any clinical symptoms indicating their existence.—J.A.M.A.

Any lesion, virus, neoplastic and traumatic or toxic, may directly or reflexly disturb the diencephalon and cause visceral symptomatology that may be readily mistaken for a neurosis.—J.A.M.A.

If we are to save the individuals who will be unfortunate enough to have acute gall-bladders, repeated biliary colics and common or hepatic duct stones with possible jaundice and cholangitis we must advise removal of all gall-bladders silent or active which can be with certainty proved to contain calculi or to harbor a real infection.—Surgical Clinics of North America.

COLORADO STATE MEDICAL SOCIETY

Officers, 1935-1936

President: Walter W. King, Denver.

President-elect: A. J. Markley, Denver.

Vice Presidents: First, L. W. Bortree, Colorado Springs; Second, Herman C. Graves, Grand Junction; Third, A. C. Sudan, Kremmling; Fourth, C. W. Bixler, Erie.

Constitutional Sec'y.: J. S. Bouslog, Denver (1936).
Treasurer: J. B. Hartwell, Colorado Springs (1938).
(The above officers constitute the Board of Trustees of the Society.)

Executive Secretary: Mr. Harvey T. Sethman, 537 Republic Bldg., Denver; telephone KEystone 0870.

Delegates to American Medical Association: John W. Amesse, Denver (1936); Alternate, John B. Crouch, Colorado Springs (1936); Harold T. Low, Pueblo (1937); Alternate, John Andrew, Longmont (1937).

Councillors:		Term Expires
District No. 1	F. W. Lockwood, Fort Morgan	1936
District No. 2	Ella A. Mead, Greeley	1936
District No. 3	George P. Lingenfelter, Denver, Chairman	1936
District No. 4	C. T. Knuckey, Lamar	1938
District No. 5	W. L. Newburn, Trinidad	1938
District No. 6	C. Rex Fuller, Salida	1938
District No. 7	A. L. Burnett, Durango	1937
District No. 8	Lee Bast, Delta	1937
District No. 9	W. W. Crook, Glenwood Springs	1937

Standing Committees, 1935-1936

Credentials: J. S. Bouslog, Denver, Chairman; O. E. Benell, Greeley; O. B. Rensch, Durango.

Scientific Work: Philip Hillkowitz, Denver, Chairman; Thad P. Sears, Denver; Atha Thomas, Denver.

Arrangements: W. W. Crook, Glenwood Springs, Chairman; R. B. Porter, Glenwood Springs; Warren H. Twining, Aspen; F. A. Humphrey, Fort Collins.

Public Policy: William H. Halley, Denver, Chairman; Gerrit Heusinkveld, Denver, Vice Chairman; Hamilton I. Barnard, Denver; Maurice Katzman, Denver; W. T. Brinton, Denver; C. H. Boissevain, Colorado Springs; J. S. Norman, Pueblo; Charles H. Platz, Fort Collins; George H. Curfman, Salida; W. W. King, Denver, ex-officio; J. S. Bouslog, Denver, ex-officio; Mr. H. T. Sethman, Denver, ex-officio.

Publication: C. F. Kemper, Denver (1936), Chairman; C. S. Bluemel, Denver (1937; Osgoode S. Philpott, Denver (1938).

Medical Defense: Frank B. Stephenson, Denver (1936) Chairman; Edward Delehanty, Denver (1937); T. E. Beyer, Denver (1938).

Medical Education and Hospitals: John Andrew, Longmont, Chairman; G. E. Calonge, La Junta; John G. Ryan, Denver.

Library and Medical Literature: Gerald B. Webb, Colorado Springs, Chairman; Frank R. Spencer, Boulder; John W. Amesse, Denver.

Cooperation With Allied Professions: John R. Evans, Denver, Chairman; Herbert A. Black, Pueblo; B. B. Jaffa, Denver.

Medical Economics: W. Walter Wasson, Denver, Chairman; Jack G. Hutton, Denver; Philip Hillkowitz, Denver.

Necrology: A. C. McClanahan, Delta, Chairman; Jefferson C. W. Davis, Denver; Charles B. Dyde, Greeley.

Special Committees, 1935-1936

Postgraduate Clinics: W. T. H. Baker, Pueblo, Chairman; John M. Foster, Jr., Denver; John B. Davis, Denver; G. M. Blickensderfer, Denver; L. N. Myers, Cheyenne Wells.

Cancer Education: Lyman W. Mason, Denver (1936); C. T. Ryder, Colorado Springs (1936); J. B. Hartwell, Colorado Springs (1936); George H. Curfman, Salida (1937); George A. Unfug, Pueblo (1937); J. E. Naugle, Sterling (1937); Carl W. Maynard, Pueblo (1938); Harry S. Finney, Denver (1938); Sanford Withers, Denver (1938).

Tuberculosis Education: Charles O. Giese, Colorado Springs, Chairman; W. N. Beggs, Denver; H. J. Corper, Denver.

Advisory to the School of Medicine: N. A. Madler, Greeley, Chairman; W. W. Haggart, Denver; R. W. Hoyt, Denver; Philip W. Whiteley, Denver; W. B. Hardesty, Berthoud.

Advisory to the Board of Health: John W. Amesse, Denver, Chairman; Ralph S. Johnston, La Junta; Lawrence D. Dickey, Fort Collins; Ralph H. Verploeg, Denver; D. A. Vanderhoof, Colorado Springs.

Advisory to the F.E.R.A.: F. Julian Maier, Denver, Chairman; F. A. Humphrey, Fort Collins; W. A. Campbell, Jr, Colorado Springs.

Military Affairs: G. P. Lingenfelter, Denver, Chairman; Nolie Mumey, Denver; Duane Hartshorn, Fort Collins.

Gratuitous Medical Services: Lorenz W. Frank Denver, Chairman; R. W. Arndt, Denver, Vice Chairman; T. D. Cunningham, Denver; F. O. Kettlekamp, Colorado Springs; Royal H. Finney, Pueblo.

Rocky Mountain Joint Session, 1937: G. P. Lingenfelter, Denver, Chairman; Nolie Mumey, Denver; Claude Cooper, Denver; Harold T. Low, Pueblo; Lawrence L. Hick, Delta.

Delegates to Colorado Council of State-wide Health Agencies: W. H. Halley, Denver; Harry A. Alexander, Boulder.

Constituent Societies Meeting Dates; Secretaries

Adams County—Quarterly, date set by president and secretary; secretary, J. C. Stucki, Brighton.

Arapahoe County—Last Monday of each month· secretary, N. Paul Isbell, Englewood.

Boulder County—Second Thursday of each month; secretary, Warren M. Gilbert, Boulder.

Chaffee County—First Tuesday of each month; secretary, L. E. Thompson, Salida.

Clear Creek Valley—Second Tuesday of each quarter; secretary, Edward P. Fee, Arvada.

Crowley County—Second Wednesday of each month; secretary, W. M. Desmond, Ordway.

Delta County—Last Friday of each month; secretary, E. R. Phillips, Delta.

Denver County—First and third Tuesday of each month; secretary, F. Julian Maier, Denver.

Eastern Colorado—Quarterly, first Monday in December, March, June and September; secretary, W L. McBride, Seibert.

El Paso County—Second Wednesday of each month, secretary, Harry C. Bryan, Colorado Springs.

Fremont County—Fourth Monday of each month; secretary, Archie Bee, Canon City.

Garfield County—Last Thursday of each month; secretary. R. B. Porter, Glenwood Springs.

Huerfano County—Third Thursday of each month; secretary, James M. Lamme, Walsenburg.

Lake County—First Thursday of each month; secretary, J. C. Strong, Leadville.

Larimer County—First Wednesday of each month; secretary, Thad C. Brown, Fort Collins.

Las Animas County—First Friday of each month; secretary, P. W. Carmichael, Trinidad.

Mesa County—Third Tuesday of each month; secretary, F. J. McDonough, Grand Junction.

Montrose County—First Thursday of each month; secretary, C. E. Lockwood, Montrose.

Morgan County—Last Monday of each quarter; secretary, Paul E. Woodward, Fort Morgan

Northeast Colorado—Second Thursday in each month; secretary, E. P. Hummel, Sterling.

Northwestern Colorado—Second Thursday of each month; secretary, Duane Turner, Steamboat Springs.

Otero County—Second Friday of each month; secretary, C. E. Morse, La Junta.

Prowers County—First Tuesday of each quarter; secretary, C. T. Knuckey, Lamar.

Pueblo County—First and Third Tuesday of each month; secretary, Jesse W. White, Pueblo.

San Juan—Second Saturday, January and alternate months; secretary, Charles L. Mason, Durango.

San Luis Valley—Fifteenth of each month; secretary, James R. Hurley, Alamosa.

Washington and Yuma Counties—First Tuesday of each quarter; secretary, M. L. Crawford, Akron.

Weld County—First Monday of each month; secretary, T. C. Wilmoth, Greeley.

Wyoming Section

JUNE
1936

The Cody Meeting

AUGUST twenty-fourth and twenty-fifth have been selected as time for the next meeting of the Wyoming State Medical Society, and the place is Cody.

Get your calendar down and mark these days for your annual outing. Plan to start Sunday, August 23, so as to arrive in Cody Sunday evening for the get-together time. You don't want to miss a minute of this meeting.

We are going to have some distinguished guests, any one of whose addresses will repay you two-fold for the time and money spent. You can not afford to miss this meeting.

The dates were set late in the summer so that hotel accommodations might be secured. The main Yellowstone Park rush will be over and Cody can thus accommodate the medical men and their families.

We hope to have the program ready for the July number of Colorado Medicine. When you read that program you certainly will decide to be there. And what a time we all will have!

Rocky Mountain Medical Congress

THE idea of an interstate meeting of the medical men of the Rocky Mountain states, Colorado, New Mexico, Utah, Montana and Wyoming—has been suggested by the Colorado State Medical Society. Already Colorado and New Mexico Medical Societies have endorsed the plan and the Wyoming Society, at the Lander meeting, was invited to join in the first meeting to be held in Denver in 1937. This idea seemed to meet the approval of the members present at the Lander meeting. Formal action will be taken by the House of Delegates at our Cody meeting August 24 and 25.

Every member so fortunate as to have been at the joint meeting of the Idaho, Montana and Wyoming Tri-State meeting held in Yellowstone Park in 1928 will certainly vote for a meeting such as the Colorado Society has suggested for Denver next year.

The plan, as we understand it, provides for such a joint meeting being held every three years. Utah, no doubt, would invite these states to meet in Salt Lake in 1940 and in 1943 the Wyoming Society would be the sponsors in Yellowstone Park. The other states would in turn entertain or sponsor a meeting for this group.

This plan would be complete if all of these Rocky Mountain states would join together. We sincerely hope that they will, and yet if one or even two of the invited states failed to understand the great advantages of such a meeting and should decline to join the others, the plan would still not be a failure. Such a backward step by the declining ones would only be their own loss.

We fully realize that some members in all of the societies may not, on a moment's thought when first presented with the idea, fully understand the advantages of such a meeting. Some may say it costs too much. If a few dollars is your God, perhaps you may be right. If being a better and more scientific doctor is your aim in life the advantages of such a gathering will be the all-important consideration. Such a meeting would draw the medical and surgical talent of the entire United States. Can any member of the medical profession in these states afford to side-step such an opportunity?

E. W.

How "Not" to Vaccinate For Tick Fever

SOME doctors in Wyoming should be "shot at sunrise tomorrow morning" for administering the Spencer-Parker tick vaccine improperly. In every case with unfortunate results someone is to blame, and the doctor

who repeats these errors should be spanked. The offenses are:

1. Deep muscular injections cause unnecessary pain, continued muscle soreness of the arm, chest or back.

2. Use of needles and syringes that are not freshly sterilized.

3. Telling patients that only one shot of the vaccine is necessary. Such a statement gives a false sense of security to the patient. Two injections of two c.c. each are required to protect properly against the meanest creature in Wyoming—the wood tick. There may be some good wood ticks that are not infected with the germs of Rocky Mountain spotted fever, tick paralysis, tularemia or the so-called Colorado tick fever, and other as yet undiscovered diseases, but to say the least they are in very bad company even though harmless.

The rattler will give warning before he strikes. The wood tick oftentimes bites without pain.

4. Injecting the vaccine too near the elbow causes more swelling and pain than if administered just under the skin, one-third of the distance down from the shoulder to the elbow.

5. Failure to tell every patient not to rub or scratch the arm or site of injection. If you do not believe that this is important try rubbing or scratching your own arm after an injection. Most of the unpleasant after-effects are due to the above causes. Every patient should be advised to rub his belly instead of his arm! Rubbing his tummy won't hurt him, but rubbing the arm will bring disastrous results. E. W.

❦ ❦ ❦

REPRESENTED AT KANSAS CITY

The following doctors were in attendance at the meeting of the American Medical Association held at Kansas City, May 12, 13, 14 and 15, 1936: Dr. G. M. Anderson, Cheyenne, Wyoming; Dr. E. E. Baker, Gillette, Wyoming; Dr. F. L. Beck, Cheyenne, Wyoming; Dr. Myron L. Crandall, Rawlins, Wyoming; Dr. J. H. Goodnough, Rock Springs, Wyoming; Dr. Allan McLellan, Casper, Wyoming; Dr. F. A. Mills, Powell, Wyoming; Dr. O. C. Steffen, Sheridan, Wyoming; Dr. Earl Whedon, Sheridan, Wyoming; Dr. O. C. Reed, Torrington, Wyoming, and Dr. Geo. Phelps, Cheyenne, Wyoming.

Those attending the Auxiliary meetings were Mrs. George Phelps, Cheyenne; Mrs. O. C. Reed, Torrington; Mrs. E. E. Baker, Gillette; Mrs. Allan McLellan, Casper.

* * *

Dr. Chester E. Harris, who spent a month at Memorial Hospital in Cheyenne, had recovered sufficiently so that it was possible to move him to his home in Basin the first of the month. Dr. Harris is still suffering from hemiplegia and complete aphasia, result of multiple emboli.

* * *

Dr. George P. Johnston was called to California early in May due to the illness of a brother.

* * *

Dr. George H. Phelps of Cheyenne recently suffered a fracture of the left clavicle. When in a practice game of polo his horse fell and turned a complete somersault.

Know Your Collector!

Some of the trick clauses used are as follows: "A listing fee of 50c per claim;" "50 per cent commission charged on all claims canceled at client's request, when further proceedings are ordered held or stopped, or when client interferes with settlement of account;" "Failure to furnish necessary evidence of indebtedness, or failure to furnish information relative to payments, on request, will be considered instructions to stop further proceedings."

One of your San Diego County Medical Association members recently listed 315 claims, valued at about $3,000.00, with an out-of-town agency under one of these contracts. He thought that he was listing these claims on a 20 per cent commission basis. After several months and much corrspondence, the doctor received the following report from his collector:

$346.00—Paid to us.

74.00—Paid to you.

0420.00—50% Commission.....$210.00

Listing 315 @ $.50..... 157.00

Total.....$367.50

Paid to Us..... 346.00

Balance Due Us.....$ 21.50

The matter has been brough before the State Inspector of Collection Agencies by our Association in an effort to help this doctor, but practically nothing can be done.

I am sure that at least this doctor agrees with me that you should **Know Your Collector!**—San Diego Med. Bul.

EUROPE—



Foreign Independent Tours

This year see the Europe you would like to see . . . traveling on your own schedule in your own way. Dunsay's will help you plan an independent trip and arrange every detail in advance.

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Inclusive travel plans for every taste and every pocketbook. $250 to $925.

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Motorcoach, Private Courier, Private Automobile and Aeroplane Tours can be arranged and are, as all the above, immediately available.



DUNSAY'S TRAVEL SERVICE

301 Security Bldg. MAin 8922 Denver, Colorado

Colorado Hospitals

JUNE
1936

Our Annual Session

In April there was held one of the best meetings yet conducted by the Colorado Hospital Association. The spring session of the Association was held in conjunction with the Colorado State Nurses Association at their annual meeting. Among the most popular features of the meeting were the joint sessions, which were attended by nurses, executives, and doctors. Round table discussions in the capable hands of Dr. Malcolm T. McEachern, hospital director for the American College of Surgeons, and Dr. Arthur Bachmeyer, director of clinics for the University of Chicago, drew excellent discussion.

Many splendid papers were presented, covering many topics of interest to hospital executives and nurses.

For the first time in several years an exhibitors' section was in evidence. That this section of the meeting has not lost in popularity was well demonstrated by the large numbers of visitors to the various booths.

One of the highlights of the meeting was the joint banquet held Tuesday evening under the skillful direction of Miss Ellen Perdue. The speaker of the evening was Hon. Justice Benjamin Hilliard of the Colorado Supreme Court.

A number of requests have been received for copies of Judge Hilliard's address. As it has been impossible to comply, his remarks are recorded, in substance:

"Life is a wonderful thing to which we make our contribution as we go along. Some are gifted and some are not, but with our great schools and institutions all can get ready to make some contribution.

"Much progress has been made in the world; much of misery obtains—but we are driving to a point where some day the children of men will not be in want; industrialists will have opportunity to earn their bread by the sweat of their brows.

"The depression has been a good thing. We had come to believe that indolence went to make happiness. We learned that is was not sufficient. Selfishness, preached by us all, resulted in such disturbance that men honest, industrious and capable, found themselves without employment, and hunger stalked the land. People with good souls found themselves in distress.

"If out of that we have found that we are our brother's keeper—and are responsible for his welfare—then the depression has served its purpose.

"When one individual is put out no one is concerned. When all were distressed, then sympathy was born. Came the time when want stalked the land. Now we understand; now we know that men must work together. Our souls are filled with hope and with love for humankind. We have trained people to look after those in distress—to bring comfort and help to the ill. All this comes first out of the love of humankind for humankind. Deep in our souls we are concerned about the plight of man.

"We are prone to forget the dignity of our creation. Man is the only creature made in the image of God. The beasts are stronger than man, the birds more beautifully adorned, the fishes more graceful in their movement, yet man, standing erect and with his feet on the ground has only God to fear and mankind to serve.

"Let us then buckle on the armor of eternal service and put selfishness aside. Let avarice no longer gnaw at our souls. Let us look upon our brother in distress with pity so that finally peace and comfort shall be the portion of humankind. Then will the millenium be just over the horizon and gladness everywhere because men have become just and happiness will reign throughout the land.

"Man, if inspired with a sense of justice can picture the time when all will be remembered and none forgotten. May we all make our contribution."

Tetanus prevention with . . .

TETANUS ANTITOXIN

GLOBULIN *Lederle* MODIFIED

THE WORLD WAR BROUGHT Tetanus-Antitoxin into wide use because the doctors saw the incidence of Tetanus among the wounded fall almost to zero following the universal injection of 1500 units of Tetanus Antitoxin as a first-aid measure.

This custom is now routine in civilian medical practice in the treatment of all wounds where Tetanus infection is considered liable to occur.

In recent years the use of 3000 units of Tetanus Antitoxin instead of the usual prophylactic dose of 1500 units has become more common because a few exceptional cases have developed Tetanus within 10 days after the 1500-unit dose. With the present highly potent antitoxin, the Lederle 3000-unit dose is not larger in volume or protein content than the 1500-unit dose of a few years ago. A 3000-unit prophylactic dose has been advocated by the New York City Department of Health.

If the wound is extensive and contaminated with foreign matter, Tetanus-Gas Gangrene Antitoxin may be preferred to Tetanus Antitoxin alone.

Following the reports of Vener and others, the quickest possible use of a complete dose (200,000 units in divided dosage) of tetanus antitoxin seems to give promise of elevating the antitoxin treatment of tetanus to a more satisfactory position.

TETANUS ANTITOXIN "GLOBULIN MODIFIED" *Lederle* is antitoxin of high concentration and purity. Adequate dosage is obtainable in convenient volume and in this form reactions have been reduced materially.

All Antitoxins sold by ***Lederle*** *are now Globulin Modified, averaging 40% less bulk.*



The NEW *and the* OLD
ACTUAL SIZE—10,000 UNIT DOSE

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ORGANIZATION OF THE NURSING SERVICE IN THE GENERAL HOSPITAL

LOUISE KIENINGER
DENVER

During his stay in the hospital the patient has more prolonged contact with the nursing department than with any other department, for all activities that touch the patient are integrated by the proper functioning and cooperation of the nursing staff. The primary function of the nursing department is to insure good nursing care. It is also responsible for carrying out the administrative regulations of the hospital and for cooperating with other groups in upholding the community and ethical relationships of the hospital.

The great variety of factors affecting the nursing service in any given hospital makes it difficult to obtain a true concept of the nursing load. Some of these variable factors are: the plan of the hospital, the class of patients admitted, whether or not the hospital is a teaching institution, the organization of other departments as relating to the care of patients, the amount of nursing service required for the various types of illness, and the quality of nursing service the hospital intends to provide.

The basic requirements of a nursing department include: (1) A well organized staff of executives, (2) a staff of well qualified supervisors and head nurses, and (3) the required number of general staff nurses, together with the necessary number of supplementary helpers—orderlies, attendants, maids and janitors.

If there is a school of nursing affiliated with the hospital, there must be in addition to the executive and supervisory staff a group of instructors to carry the classroom teaching, and to assist in the ward teaching and supervision of the student nurses. A successful nursing service has three essential requirements: Adequate personnal, sufficient time allowance, and qualified supervision.

In order to make this discussion more specific the organization of the nursing department in the hospitals of the University of Colorado will be outlined. These hospitals are the teaching institutions for the University of Colorado School of Medicine and School of Nursing. The bed capacity is 260. The daily average of patients during the last five years has been 196.

In the General Hospital there are six wards: One obstetrical, one pediatric, two surgical, two medical, an operating room suite, and an outpatient department. In the Psychopathic Hospital there are four wards —two for disturbed patients, and two for convalescent and semi-convalescent patients, and an outpatient department.

The executive staff of this nursing service consists of a director of nursing with an assistant, an associate director and assistant in the Psychopathic Hospital, an evening supervisor and a night supervisor in each of the hospitals. Under the control and guidance of the director this staff is responsible for translating into terms of nursing service the hospital's responsibility to its patients, and into terms of nursing education, the hospital's responsibility to its student and graduate staff nurses.

The School of Nursing maintains the following staff of instructors: An educational director who teaches some of the science courses and has charge of the entire educational program of the students, including both theoretical and practical experience; an instructor in the principles and practice of nursing; an instructor in psychiatric nursing; an instructor in the outpatient department; and an instructor who assists the ward supervisors with teaching and supervision.

In the General Hospital there are six supervisors—one for each department—obstetrical, pediatric, surgical, medical, outpatient and operating room, and a head nurse for each of the six wards. Also, the operating supervisor and the supervisor in the outpatient department each has an assistant. Two supervisors and four head nurses have charge of the four wards in the Psychopathic



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"American dietaries are probably still relatively poorer in calcium than in any other chemical element. Primarily, the remedy is to see that milk in its various forms is given a greater prominence in the dietary and in the general food supply."

—Sherman, H. C.; Food & Health, 1935.

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—Bernheim, A. R. Health Examiner, December, 1935.

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Proc. Soc. Exp. Biol. and Med., 1934, 32, 241-245 ★
Laryngoscope 1935 XLV, 149-154 ★
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Hospital, and there is a supervisor in the outpatient department in this hospital.

The supervisors teach the nursing classes for their clinical specialty, hold conferences and clinics, and direct the ward teaching and supervision program for both general staff nurses and student nurses. The head nurses are concerned particularly with the administrative duties in connection with their wards, but they may also assist the supervisors with the teaching and supervision.

This staff of thirty-two nurses is the minimum needed to carry the administrative, teaching and supervisory duties in these hospitals, with about 200 patients, where there is a permanent graduate staff and where the student group, including affiliates and postgraduates, averages about sixty. If there were no school of nursing, except for the five instructors, the same staff would be necessary to administer the nursing service.

In defining the functions or duties of this important staff, I could do no better than to list those given by Elizabeth Greener:

1. "To teach the importance of understanding, not only the physical, but also the social and mental aspects of each patient.

2. "To make sure that all nursing duties are carried out quietly, effectively, and intelligently, in order that patients may derive the fullest benefit.

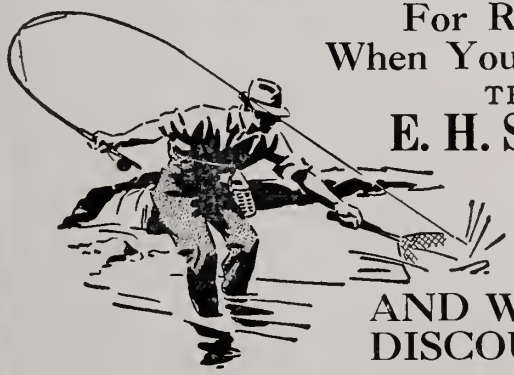
3. "To understand and show due consideration for the harassing complexity of the daily program facing nurses on the ward, and to bring about system, order, and good standards by sympathetic, helpful guidance.

4. "To stress the need for an alert, interested, cooperative attitude toward the medical staff and to work with them wholeheartedly to bring about the best possible medical results.

5. "To study and analyze all nursing methods and ward procedures with a view to simplification with elimination of unnecessary or obsolete procedures.

6. "To make certain that nurses understand the nature of the diseases being treated

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and the type of nursing service required, especially in difficult or unusual cases.

7. "To promote friendly, courteous relationships between the nursing group and all other organized hospital departments.

8. "To realize that no matter how well standardized as a whole the hospital may be, each ward is a complete and separate unit with its own peculiar problems and needs, and that each ward presents all, or nearly all, of the required elements for nursing experience and affords an ideal field in which to bring about improvement in the nursing service through the maintenance of a carefully directed educational program to consist of clinical experience, nursing technic and ward management. If a better type of head nurse and hospital executive is to be produced to meet the needs of the future, the preparation for such service must necessarily start from the first day on which the young student is placed on the hospital ward to apply the various theories and practices taught in the classroom."

Next, we must consider the third division of the nursing department, namely, the nurses, graduate or student, and the supplementary helpers who render the actual care to the patients. How should we estimate the number of these that should be maintained for our hospital? Again, there are many factors to be studied. The Grading Committee suggests that we ask the following questions:

1. Are there enough workers on the ward so that every patient can receive good nursing care, and so that every student and graduate can give good nursing care?

2. Are there enough graduates so that each student can work under the close direction of a skilled graduate nurse?

3. Are these graduates good nurses and good teachers?

4. Do they think about the patient and do they think about the students as they work?

In 1927 the Grading Committee found that the average hospital nursing load was distributed as follows:

Sixty-four per cent carried by the students.

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Seven per cent carried by the graduates.

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In recent years many factors have combined to increase the nursing load in hospitals, so that nursing service is strained to the limit, and lacks finish and thoroughness. Many procedures and treatments formerly administered by the physician are now given over to the nurse. The increased knowledge of science as applied to the practice of medicine has tended to increase the time element needed to carry out the proper technics, such as medical asepsis. The complex system of hospital administration makes many demands on the nurse. The maze of requisitions, forms and reports to be filled out, the upkeep of equipment, the keeping of inventories—all take much of the nurse's time. The development of the technical departments—dispensary, x-ray, physiotherapy, social service, dietary, etc.—all of whom call on the nurses for assistance, cooperation and information, again reduces the number of hours the nurse may devote to actual nursing care. In institutions connected with medical schools there is also an additional heavy demand in the nursing department. The very commendable tendency toward a forty-eight-hour week for both graduate and student nurses has made an increase in personnel necessary. Too, in this connection we need to take into consideration the fluctuating daily and monthly census—the slack and high periods of which do not come as erratically as one might suppose—and also vacation and sick leaves of nurses.

One common method of measuring the nursing load is to state the numerical ratio of nurses to patients. So often this is inaccurate because the whole nursing staff is included in the count, instead of just those who are giving actual bedside care. And because it is forgotten that this staff must give the nursing service over a twenty-four-hour day. One report gives a ratio of one nurse for every two patients to cover the twenty-four-hour period. In other words, a staff of sixteen nurses for a ward with thirty-two patients, giving eight for day duty, five



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for evening duty, and three for night duty. Another method of measuring the nursing load is to show the average amount of nurse's time per patient. A conservative estimate shows that the average adult patient needs three to four hours of nursing service during each twenty-four-hour period. If four hours apiece were allowed the thirty-two patients in a ward, it would require sixteen nurses—the same number obtained by the first method given.

It has become essential for a hospital that conducts a school of nursing to have a staff of graduate nurses for general duty, if the students' educational needs are not to be subordinated to the immediate needs of the hospital. It is a distinct advantage to have graduate staff nurses to stabilize the nursing service when students are rotated from one service to another every three months, and necessary to improve the quality of the nursing care. Also, as the census varies on different services the graduates instead of the students may be changed to equalize the nursing load.

There must be supplementary workers in the hospital to do the non-educational and non-nursing tasks that are now performed by the graduate and student nurses, so that the nurses can give their entire time to those things which are distinctly nursing. This does not mean that nurses should not have a knowledge of the household arts, so that they will be able not only to instruct and teach their helpers to perform these domestic duties, but be able to perform them themselves in case of emergency, or whenever they are necessary to insure the maintenance of a favorable environment for the patient.

In planning the organization of our nursing department we must not forget the night service. None of us, I am sure, are satisfied with the often inadequate night personnel. There must be provision for adequate supervision, and for sufficient nursing time by the use of a larger personnel, both of graduate nurses and supplementary workers for night duty. Why should night nurses be required to work longer hours than day nurses? Why should patients be subjected to poorer nursing care at night than in the



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day time? Why shouldn't nurses be supervised as carefully at night as they are during the day? Blanche Pfefferkorn's studies have shown us a great laxity on that score. In the general hospital we supplement the night staff by the addition of several graduate night assistants who are assigned where the need is greatest. In the Psychopathic Hospital we have sufficient night attendants to safeguard the patients and nurses.

In the nursing department of the General Hospital, eight orderlies, twelve maids, and four janitors are employed in the eight departments; in the Psychopathic Hospital nursing department, eighteen attendants, six maids, and three janitors. Several more of these supplementary workers could be used to advantage, particularly on night duty and in the operating room, but we, too, are hampered, as are most hospitals, by lack of funds.

All departments have general staff nurses —the number in each varying with the patient census and the assignment of students.

To facilitate the functioning of the nursing department weekly conferences are held by the executive, teaching and supervisory staff. When the need arises the heads of other hospital departments are invited to attend. At six-week intervals the educational director has a conference with each supervisor and her head nurses concerning the progress of the students in that clinical service. Classes and conferences are organized for head nurses. Classes and conferences are planned and conducted by the evening and night supervisors for the evening and night staff. The general staff nurses participate in the ward educational program, in the daily morning circles, and in the bedside clinics. A course of lectures and demonstrations is arranged for all attendants. All classes and conferences are held in "on-duty" time. In this way each member of the personnel is given an opportunity to share in and contribute to the larger plan, as well as to his own department, and thus feels that he or she is an integral and important part of the organization.

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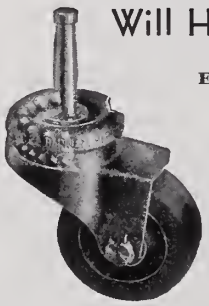
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is arranged for the entire staff by the graduate-student council. Participation in the above program does much toward attaining our goal of good nursing care for the patients and nursing education for our students. The health of the personnel is safeguarded through physical examinations and prompt treatment of all illness.

While the actual number of hours of service given each patient must often be limited, the amount of personal interest, kindliness, consideration and thought given to the patient by every member of the nursing personnel should be unlimited and freely given. After all, the real depths of nursing can only be sounded through ideals, love, sympathy, understanding, knowledge and culture—expressed through daily practice of procedures and relationship.

Tooth decay may be prevented by (a) the reduction of sticky foods with a high carbohydrate content, (b) the administration of a diet built up around milk, meat, eggs, vegetables, and fruit, with added vitamin D, which will tend to result in optimal health.—Pennsylvania Medicine.

The reliance of physicians upon atropine and belladonna (for hyperacidity, hypersecretion, hyperperistalsis or spasm) is not justified, the main reasons being that in the doses commonly employed they cannot produce the desired effects and that, in dosage large enough to produce stomach effects, the other actions are too unde sirable to permit repeated administrations.—J.A.M.A.

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PUBLIC HEALTH NOTES

Vincent's Diseases Threatens to Become "Endemic" in the United States

Vincent's disease, commonly called trench mouth, threatens to become endemic in this country, Dr. Don Chalmers Lyons of Jackson, Michigan, declared at the recent meeting in Detroit of the Society of Bacteriologists, Pathologists, and Allied Workers of Michigan, Ohio, and Indiana. Human carriers and improperly cleaned beverage glasses are the means by which this disease is spreading, Doctor Lyons stated. He quoted impressive figures to show the increase in cases of this disease within recent years. "In the State of Washington, where it is classed as a common communicable disease and according to law reportable within twenty-four hours to county and city health officers, there were seven cases reported in 1931 and 343 in 1934; a tremendous increase from a percentage standpoint," Doctor Lyons said. "Ninety-five cases were reported in Illinois in 1931, and 758 in 1934, of a 700 per cent increase. Eight hundred and eighty cases were reported in up-state New York in 1931, and 1,733 in 1934, or more than a hundred per cent increase. One can safely say that if all cases were reported the figures would be even more impressive."

Doctor Lyons and others have examined glasses as they came back from customers in beverage dispensing establishments and also as they hung on the rack, supposedly clean, and ready for use. They found the bacillus fusiformis on the rims of both dirty and clean glasses.

Dr. Lyons gave three measures for checking the spread of Vincent's disease. These are:

"1. More rigid enforcement of sanitary standards in beverage dispensing establishments.

"2. Better control of Vincent's infection.

"3. Education of the public to demand proper sanitary measures to protect their health."—The Diplomate. March, 1936.

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BOOK REVIEWS

The Doctor's Bill. By Hugh Cabot. With an Introduction by A. Lawrence Lowell. Morningside Heights, New York: Columbia University Press. MCMXXXV. Price, $3.00.

Under this simple the eminent associate of the Mayo Clinic envisages the present pressing economic question as it affects the medical profession. An experience of over thirty years of close contact with practicing physicians and undergraduates should lend sufficient background to give his conclusions due consideration.

In his preface, Doctor Cabot justly points out that neither the economist nor the social worker is competent to offer a proper solution in dealing with such an intensely human activity as medicine. The physician, biased as he may be by emotion or vested interests, is after all the best agent to cope with the problem.

The author takes up medicine as it was practiced in the gay nineties and shows the enormous changes it has undergone since those idyllic days when a pencil and thermometer were the chief parts of the armamentarium to the complex conditions of the present with specialisis of various kinds and laboratories with expensive equipment, all this advance increasing the cost of medical care.

Chapters are devoted to Group Health Services, Workmen's Compensation, Income of Physicians, Ability to Pay for Illness, Health Insurance Abroad and the Medical Needs in the United States. The author then discusses suggested methods for improvement under the various types of insurance and other schemes that have been proposed which are discussed more fully under the heading, "Laissez faire or compulsion."

Under the catchy theme "Where do we go from here," the final chapter is a further elaboration of the knotty question of the remedy. As was to be expected no definite solution is advanced but a critical analysis made of certain phases of organized medicine and on certain shibboleths used by the profession, such as free choice of physicians, limitation of the number of physicians, etc. The volume is written in a readable style and is well worthy of perusal by the practitioner. PHILIP HILLKOWITZ.

Examination of the Patient and Symptomatic Diagnosis. By John Watts Murray, M.D. With two hundred seventy-four illustrations. Second Edition. St. Louis: The C. V. Mosby Company. 1936. Price, $10.00.

The main emphasis of the book is on history taking. The book is divided into two parts. Part One is concerned with the routine history and is 430 pages in length. Part Two describes a more elaborate history form for diseases of single organs or systems of the body and is 776 pages in length. In addition to exhaustive questions about every part of the body in order to elicit all possible symptoms of disease, physical signs and laboratory findings are discussed. The bulk of the book is made up of references to every conceivable disease that might cause each symptom or sign.

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Volume 1 of the 1936 series deals with medicine and surgery, but is largely concerned with the former. Of the twelve articles on medical subjects, the most helpful probably is that of Soma Weiss, M.D., of Harvard Medical School, who discusses the indications and dangers of sedatives and hypnotics, with special reference to the barbituric acid derivatives. This contribution is inclusive and should be generally helpful to the surgeon and obstetrician, as well as to the internist. Several comparatively rare conditions are discussed, including a case of Simmonds disease due to primary tumor of Rathke's pouch, onchocerciasis, and generalized neurofibromatosis with naevus anaemicus. Some less unique conditions described include a brief but helpful presentation of basal pulmonary tuberculosis, a concise and informative consideration of pulmonary embolism, theory, case report, graphs of fever in heart disease, secondary anemia in infancy and childhood, with a plea for the proper use of iron, portal hypertension in exhaustive detail, with a complete outline at the end of the article. Recent improvements in understanding and treating pernicious anemia, general paresis, and arteriosclerosis of the lower extremities in diabetes mellitus are delineated.

Under the division heading, Surgery, a paper by Ferdinand C. Lee, M.D., of Baltimore, presents a well written discussion of meralgia paraesthetica illustrated with case histories and diagrams. Recent progress in medicine and surgery is reported by A. Cantarow, M.D., in which he reviews phosphatace activity and calcium and electrolyte metabolism, and by Donald C. Balfour, M.D., Harold K. Gray, M.D., and Hugh A. Stuart, M.D.—all of the Mayo Foundation, who discuss the progress in surgery under the anatomical subdivisions.

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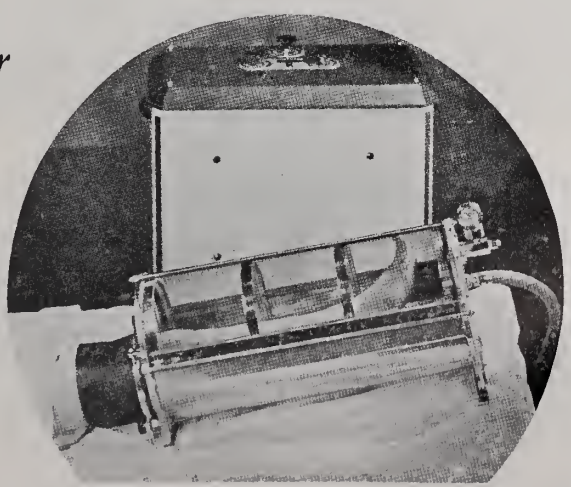
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(1) Vitamins: A Survey of Present Knowledge. Page 187 Medical Research Council, Special Report 167. 1932. His Majesty's Stationery Office, London.
(2) Vitamins in Theory and Practice. Page 86. L. J. Harris, 1935. Macmillan, New York.
(3) 1933 J. Chem. Soc. *136*, 1419.
(4) 1930 J. Home Econ. *22*, 588.
(5) 1935 Amer. Jour. Pub. Health, *25*, 1340.
(6) 1933 Ind. Eng. Chem. *25*, 682.

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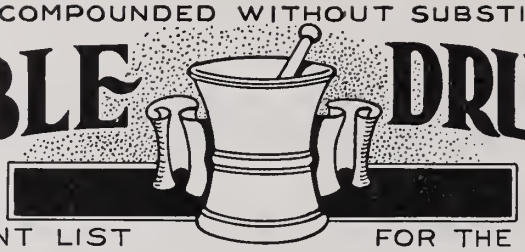
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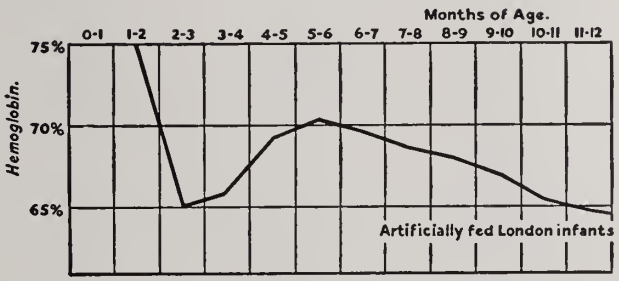
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Reasons for Early Pablum Feedings

1. The iron stored in the infant's liver at birth is rapidly depleted during the first months of life. (Mackay,[1] Elvehjem.[2])

2. During this period the infant's diet contains very little iron—1.44 mg. per day from the average bottle formulae of 20 ounces, or possibly 1.7 mg. per day from 28 ounces of breast milk. (Holt.[3])

For these reasons, and also because of the low hemoglobin values so frequent among pregnant and nursing mothers (Coons,[4] Galloway[5]), the pediatric trend is constantly toward the addition of iron-containing foods at an earlier age, as early as the third or fourth month. (Blatt,[6] Glazier,[7] Lynch[8].)

The Choice of the Iron-Containing Food

1. Many foods reputed to be high in iron actually add very few milligrams to the diet because much of the iron is lost in cooking or because the amount fed is necessarily small or because the food has a high percentage of water. Strained spinach, for instance, contains only 1 to 1.4 mg. of iron per 100 gm. (Bridges.[9])

2. To be effective, food iron should be in soluble form. Some foods fairly high in total iron are low in soluble iron. (Summerfeldt.[10])

3. **Pablum is high both in total iron (30 mg. per 100 gm.) and soluble iron (7.8 mg. per 100 gm.) and can be fed in significant amounts without digestive upsets as early as the third month, before the initial store of iron in the liver is depleted. Pablum also forms an iron-valuable addition to the diet of pregnant and nursing mothers.**

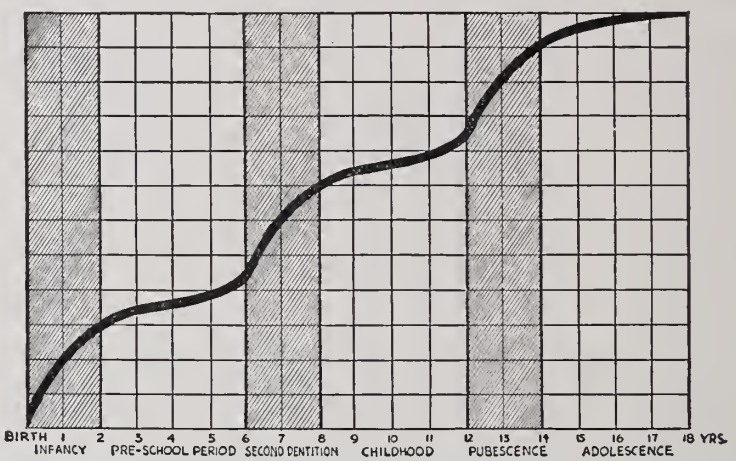
Pablum (Mead's Cereal thoroughly cooked and dried) consists of wheatmeal, oatmeal, cornmeal, wheat embryo, brewers' yeast, alfalfa leaf, beef bone, iron salt and sodium chloride.

[1-10] Bibliography on request.

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Colorado Medicine JULY 1936

Editorial

Treats in Store at Glenwood Springs

COMMITTEES arranging the program, business sessions, exhibits, and entertainment for the Annual Session in Glenwood Springs September 9 to 12 have been hard at work for many months, determined that the notable successes of the last two state meetings shall be surpassed.

All major events have been scheduled, the program is completed, and even as we go to press in advance for this issue of Colorado Medicine, we are assured that everything is "all set," with only a few minor details yet to be arranged.

The complete program will be published in our next issue, August, but elsewhere in this issue is an article introducing us to our Guest Speakers, who will prove a great attraction.

All the more popular innovations of recent years will be retained on this year's program—the round-table luncheons following each guest presentation, the clinical and pathological conferences, the special exhibit demonstrations. In the field of entertainment, the stag smoker will not be forgotten, nor, if we remember the last two years correctly, will anyone forget to attend! There is one entertainment attraction that only Glenwood can properly offer, and that is the great outdoor warm swimming pool. Of course it will be used every day by some of us, but we understand that there is one grand swimming party scheduled of a late afternoon, for the whole crowd. Bring your bathing suits, and your cameras!

Now that warm weather is upon us, we all think of vacations. Let's all take a vacation this summer, but let's save three or four days of vacation time, and the few necessary dollars, for that most notable week-end of the year, the week-end following Labor Day. Remember those dates: Wednesday, September 9, for the exhibits, Trustees, Council, House of Delegates, and general preparation; Thursday, Friday, and Saturday, September 10, 11, 12, for general scientific meetings, entertainment, and all-round mental stimulation and refreshment. Then plan to stay over Sunday if possible.

Watch for full details in next month's Colorado Medicine.

King's Physician Appraises Specialists

SOME of us heard Lord Thomas Jeeves Horder, first Baron of Ashford and physician-in-ordinary to King Edward VIII, talk about Thyrotoxicosis in Kansas City. Very few of us, or anybody else, failed to notice what he said about specialists versus the family doctor in a syndicated news item of the daily press. He told the Medical Society of New York that a patient now is commonly treated "by a committee as though he were a banking concern run by a board of directors." Lord Horder added that the number of patients whose hearts are healthy is in inverse ratio to the number of cardiologists consulted and the frequency with which they are electrocardiographed.

The press was charitable enough to say that Lord Horder said this satirically. This appears in direct contrast to the usual unjust method of the press in the familiar "dies following operation" clause. The most glaring recent one alluded to the death of James Tate Mason, President of the American Medical Association, "caused by the operation."

Lord Horder, let us assume satirically, stated that an upper respiratory tract passed as normal by a careful nose and throat man will soon be so rare as to merit demonstration at the Academy of Medicine. He mentioned the fact that there are too many cults and panaceas and that the "road to health is really a broad and well-paved road."

If the King's Physician spent much time in America, he undoubtedly learned plenty more about cults and panaceas. We will not doubt that he switched the radio off when he could stand it no longer. His native land is said to be the sanest on earth.

With his head in a whirl—from contrast—possibly he had cults, panaceas, and specialists all mixed up. He implied that salvation from all these bogie-men lies with the family doctor and his return to his rightful throne. Perhaps this is only a dream.

A further thought, pertinent at least in this country, is that the worthy family doctor up-to-date in his knowledge and practice will have scarcely more time to educate his people than has the specialist. Control of cults and panaceas (not of specialists) depends upon public education. Education depends upon organized medicine—the only qualified source—to speak out the truth with dignity, not humility! Humility seems to be out-of-date.

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Dentists Invite Doctors To Hear Dr. Rosenow

EDWARD C. ROSENOW, M.D., of the Mayo Foundation, Rochester, Minn., will be a guest speaker at the Fiftieth Annual Meeting of the Colorado State Dental Association, to be held in Denver, July 6 to 9.

Dr. Rosenow's principal lecture will be given Tuesday evening, July 7, at 8:00 o'clock, in the West Denver High School auditorium, and the title will be "The Importance of Focal Infection as Related to Health—a Medical and Dental Problem."

In a letter inviting all members of the Colorado State Medical Society to attend and hear Dr. Rosenow, Dr. L. W. Johnston, president of the Dental Association stated that the lecture will be "of great interest to both physicians and dentists, and it has been more often Dr. Rosenow's custom to speak before groups of the combined professions on this particular subject."

An outline of Dr. Rosenow's address follows:

1. The frequency of foci of infection, especially in the dental area.

2. The clinical and experimental evidence of their importance in the etiology of diseases, including heart disease.

3. The bacteriology and mechanism of their harmful action.

4. Evidence of the specificity of organisms, especially streptococci, as isolated from foci, and if possible, from systemic lesions, as measured by: (a) Clinical improvement following removal of foci shown to contain the organisms, (b) Inoculation of animals, (c) Cataphoresis, (d) Serologic reactions.

5. The results from the use of general and specific therapeutic measures.

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Submit Your Scientific Exhibits Now

A NUMBER of men have expressed the intention of placing scientific exhibits at the annual session in Glenwood Springs. Many are now complete and the necessary space, fixtures, and equipment calculated. However, others have so far failed to give the necessary data to the Committee on Exhibits.

Time is becoming very short; hence we take this means of urging prompt cooperation. The annual session has been improved by splendid exhibits for several years. This year must be no exception.

Members who have planned exhibits, or now find it possible to submit such work for approval, kindly communicate promptly, addressing:

Committee on Exhibits, 537 Republic Building, Denver.

❦ ❦ ❦

Prepare for Early Attack On Tick Fever in 1937

SEVERAL cases of Rocky Mountain Spotted occurred in the Denver district this spring and early summer. Patients are invariably very sick, and the disease carries a high mortality rate. It appears that the disease is more of a menace now than it used to be. Laymen are becoming more interested in its prevention, and the profession must be prepared to supply this information

and to give immunizing injections when indicated.

In view of these facts, this journal will publish pertinent data for our future reference. Since the danger this season is rapidly passing, immediate comment is unimportant. However, our interest has been whetted by the cases this year and we will welcome authoritative data for future reference.

Dr. Roy L. Cleere, Secretary of our State Board of Health, who has recently returned to his official post, is preparing a paper for publication in a subsequent issue of Colorado Medicine.

Central City Nights

THE Central City Opera House Association is an institution which commands widespread interest and enthusiasm. No element has supported it more faithfully than the medical profession. Being aware of this loyalty, we are publishing excerpts from a pertinent radio talk given recently by Milton E. Bernet, Vice President of the Mountain States Telephone and Telegraph Company.

Again, beginning July 18, we will enjoy this unique entertainment. Even though the colorful little city is near at hand and the enterprise sponsored by public spirited local people and the University, most of us are unfamiliar with the details of the Central City Opera House Association's inception and progress. You will enjoy reading the summary of Mr. Bernet's splendid talk in other pages, this issue of Colorado Medicine.

CORRESPONDENCE

To the Editor:

May an "Old Timer" who unfortunately could not attend the last meeting of the Colorado State Medical Society be permitted to submit a comment upon the paper of Prey and Foster on the "Newer Concepts in the Treatment of Furunculosis" as published in your May issue?

The intravenous injection of colloidal animal charcoal in this disease is indeed new to an old timer and the local application of contractile collodion as suggested by Robbins sounds reasonable and logical. For these contributions one may be truly grateful, as well as for the confirmation of the harm that may come from wet or mushy dressings, opening boils with a knife and pressing them, particularly about the face and neck.

To dismiss the use of the x-ray with the statement that "the French use the x-ray with moderate success," is to do this valuable therapeutic agent a great injustice, for in the opinion of many medical men of large experience the x-ray judiciously and properly used is in many instances a prompt and effective cure for the condition. The writer can vouch for this from personal experience. The ray must be right and the screening right to accomplish this end.

Dr. J. G. Hutton makes a sound suggestion in his discussion in saying "Perhaps the most common mistake made in treatment of furunculosis is to incise the lesion at too early a date." This statement does not go far enough, however, for if one has in mind the character of the infection with which he is dealing and the readiness with which this infection may be spread through new channels by an open incision he must conclude that there is never a time when it is truly safe to "incise" such a focus of infection, particularly about the lips or face.

Such foci should, in the opinion of the writer, always be opened with the actual cautery, never squeezed, be opened early to relieve tension only and vent the infected focus and not to evacuate the pus or slough. Leave this part of the operation to Nature. About the lips and face, this procedure is a life saver. Use for small furuncles a number 10 to 15 crochet hook with the barb cut off, heat it in an alcohol lamp if no electric or mechanical cautery is available and as soon as the furuncle is "domed" push the hot point well to the bottom of the boil and repeat if necessary. This early treatment will abort many furuncles and small boils. If no alcohol lamp is available in the house of a patient have in your bag a few 7½ grain tablets of urotropin, touch a match to a tablet in a cup or plate and heat your point in the hot blue flame, which will burn for about two minutes. And above all else resist with all your might the inclination to squeeze the damn thing. For larger boils a larger point may be required. An ordinary wire brad held in forceps does the trick.

H. G. WETHERILL,
Monterey, Calif.

The trend today (in pulmonary tuberculosis) is to institute pneumothorax or some other form of collapse therapy whenever possible and to do it as soon after the diagnosis is established as is practicable.—J. A. M. A.

There are more suicides in the community in days of prosperity than in periods of economic depression, and . . . while it is true that patients with depressive psychoses more often commit suicide than any other mentally sick persons, a number of suicides occur when the depressed person appears to be convalescing and all but recovered from his depressed state.—Archives of Neurology and Psychiatry.

THE GENERAL PRACTITIONER AND ALLERGY*

T. D. CUNNINGHAM, M.D., and J. C. MENDENHALL, M.D.
DENVER

There is a new aid to correct diagnosis slowly evolving from the experimental stage. This is the proper use and evaluation of the skin test for protein sensitization of all sorts. The procedure is now reliable when properly done, and its information is of the utmost importance in an allergic individual. The reason this aid in diagnosis has been so slowly taken up by men in general is threefold:

First: The number of people who are allergic have been underestimated.

Vaughn[1] states that from 60 to 70 per cent of the population are allergic. It is necessary in every history to question each patient closely in regard to allergy being present in any blood relative, especially ancestors. It may jump an entire generation. When both parents are allergic the offspring are usually very allergic.

Second: The profession has been circularized with literature by houses and individuals unfamiliar with allergy and given the impression that group testing is reliable. This is not so. Group testing—that is, putting on a mixture of proteins on one scratch or intradermally—deceives both the patient and the doctor. It is much the same as making only a skin incision over McBurney's point and telling the patient his appendix has been removed. This procedure would make a liar out of the doctor and would deceive the patient, and no good would come from either. So it is with partial skin tests.

Third: The time required, experience in testing, and expense practically precludes the busy man in general practice from attempting to do this properly. A thorough test requires at least two and one-half to three hours, and at the very least 160 separates scratches or intradermal injections.

In order to show the wealth of possibilities under allergy as seen by the general man, the following list will give some idea as to how many conditions have been overlooked or classed as neurosis which are usually allergic.

On the skin we have acne, acute and chronic eczema, acute dermatitis, urticaria, and pruritis ani.

The mucous membrane manifestations are many: Hay Fever, asthma, chronic nasal catarrh, chronic colds, winter coughs, and vasomotor rhinitis.

The allergic manifestations in the gastrointestinal tract are overlooked more than most any other part of the body. Here are canker sores in the mouth, edema of the lips, and vomiting. Kern and Stewart[2] have written on duodenal ulcers and hypersentitiveness. Alvarez[3] has called attention to gall bladder pain and food sensitization, and others to indigestion and mucous colitis. Every case of mucous colitis should have a thorough test for protein sensitization, as the percentages vastly favor this as an allergic condition.

The urinary tract has not entirely escaped allergic symptoms as evidenced by enuresis and burning urination when certain allergic individuals ingest foods to which they are sensitive.

The vagina occasionally gives evidence of poisoning by foods in certain cases. For example: A girl, aged 9, had purulent discharge for years, defying gynecologists, one after another. She was skin-tested for hay fever and mild asthma. When the foods to which she reacted were withdrawn from her diet the vaginal discharge cleared immediately.

The central nervous system has not escaped in the allergic patient. Vaughn[3] states that 70 per cent of migraine cases are allergic, and Sheldon[4] and Randolph state that allergy is an important contributory factor in certain cases of irregularly recurrent migraine-like headaches. There is little doubt that it is a most satisfactory treatment of this heretofore uncontrollable condition.

Some, although very few, epileptics will have attacks after ingesting foods to which

*Read at the Sixty-fifth Annual Session of the Colorado State Medical Society at Estes Park, September 6, 1935.

they are sensitive. Waldbott[5] reports a case of alternative epilepsy and asthma due to protein sensitization.

The circulatory system, at first thought to be immune from allergic conditions, is steadily producing more evidence that it is involved also. Sulzburger[6] has lately shown 80 per cent of cases of endarteritis obliterans are sensitive to tobacco, although only 10 per cent of the general population so react. Werley[7] has brought forth a case of angina pectoris in which the attacks can be produced at will by merely swallowing the offending food. Palpitation and cardiac distress in one of our own practice has been demonstrated definitely as due to food sensitization. Healy[8] has reported a transient heart block associated with allergy.

In the glandular field, Waldbott[9] states that the so-called "Thymic Death" is an allergic phenomenon similar to, or identical with, anaphylactic shock.

The arthritic conditions have had several people make an allergic attack upon them, but so far conclusive evidence that arthritis is allergic has not been proved. However, the rare condition called intermittent hydrarthrosis is apparently definitely allergic.

Outside of a secondary anemia and a diminished white blood count in allergic individuals who are ingesting considerable number of foods to which they are sensitive, the blood is not appreciably disturbed. However, nasal secretions, when due to allergy, always carry a very high percentage of eosinophils in the smear as shown by Kahn[10]. In doubtful genito-urinary cases where allergy is a factory, eosinophils may be found in a smear from the centrifuged specimen of urine stained with Wright's stain.

Naturally the dread disease cancer has been attacked allergically; Cutler[11] reports cancer cases tested with extract of cancer tissue react three times as often as non-cancerous cases.

When allergy is considered in a given case many additional bits of information are necessary to produce relief and continue the patient's comfort. Among these the first, of course, is a very careful test, then the absolute cooperation of the patient, and, in addition, it must be carefully explained to each patient that the underlying phenomenon which permits him to be sensitive has not been eradicated and that he will become sensitive to some of the foods to which he does not react at this time. Also, if and when these patients have a partial return of the symptoms a second, or even a third, skin test may be necessary as they will lose sensitization to foods, in some instances, which they do not eat and acquire it to those they are eating. It must also be impressed on them that they do not necessarily retain sensitization to foods which are eliminated from their diets. Often after omission of a food for some time they find they have lost their sensitization to that food.

Summary

1. Every good case history should contain a record of whether allergy is or is not in the family.

2. There is hardly a system in the body free from allergic manifestations.

3. The general practitioner cannot ignore the important place allergy plays in his practice.

4. Excellent results are obtainable with cooperation between the allergic patient and the doctor.

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ABSTRACT OF DISCUSSION

Paul J. Connor, M.D. (Denver): We are finding more and more, as we go along, conditions of allergy that ten years ago were never suspected by anyone.

I would like Dr. Cunningham to explain which methods of testing he uses—intradermal, or the scratch, and whether he has used the patch. Rowe of Oakland, in his works on allergy, describes very plainly that these patients may be sensitive to food. If they are placed on an elimination diet, in as short a time as a week they may become desentitized against that food and they may revert back. One must be ready to re-test any time because people change so rapidly from active to inactive allergic states and the reverse.

I have seen in the last two months four women with allergic bladders. We took these ladies off of foods to which they were sensitive and in twenty-four hours they were completely relieved and have remained so except one. Retesting her, we took her off another food and she has remained free from pain.

E. R. Mugrage, M.D. (Denver): At the University of Colorado Medical School I direct a good sized allergy clinic. There is a thought among certain of the English workers who have done considerable work along this line that virtually 100 per cent of individuals are potentially allergic. In other words, I will simply raise the figure which Dr. Cunningham has given us, if their idea is correct.

They assume that there is only one normal food for the human being; that is mother's milk. And if we search we will find among the many millions of human beings over the globe somebody who is sensitive to virtually every substance that is used for food. Consequently, we might say that with the exception of human milk we do not have any food that may not act as a poison to somebody. That does not, of course, take into consideration the many other protein substances with which we come in contact.

With regard to the white count, I do not believe that we can put too much emphasis on the white count for the reason that the white count is subject to marked fluctuations due to the degree of exercise, emotional state and so on. Recent work has shown that unless we have basal conditions with regard to our patient, the white count cannot be depended upon too much in many of these conditions.

Claude E. Cooper, M.D. (Denver): I should like to ask Dr. Cunningham if we are subject to environmental changes, such as barometric changes, sudden changes in temperature and things of that kind. I believe we are, and I would like to have his opinion.

Robert Levy, M.D. (Denver): Up to within a few years foreign writers, particularly the Germans, thought that we Americans were going wild over the problem of allergy and they made a good deal of fun in their writings. Of recent years they are coming to our way of thinking and you will see more in foreign literature favorable to our views with regard to allergy than ever before.

There is such a thing as carrying this too far. I remember many years ago when, if a man didn't know what was the matter with a patient, he said "this patient has got malaria." That was an easy diagnosis. Today we are inclined to say, "This is allergic."

I am not decrying in any sense the value of the allergic background. On the contrary I think there is no one in any of the departments of medicine who sees more allergic manifestations than the men who do ear, nose and throat work, especially nose work. Still I can't say that I am altogether satisfied with my results. The reasons are many. One thing that has appealed to me in trying to make a practical application of our views on allergy is the vast number of tests that must be made—the easy way in which the allergists describe their failures. It is like the Christian Scientist who says there is nothing wrong with Christian Science but there has been an error. The allergist says, "The reason you don't get results as often as you would like is because you have failed to make four hundred tests; you have made only three hundred and you ought to make at least four hundred and possibly five hundred! What I am trying to show is that up to the present time we are not quite as practical in our application as we might be to get results.

Another thing that I heard Dr. Cunningham say is in regard to the frequency with which rechecks should be made. That certainly has been greatly overlooked. I find patients coming in to me who have been patients of mine for years and have also been patients of Dr. Cunningham, who has made numerous tests and when I say, "Are you still taking Dr. Cunningham's treatment?" they say, "Oh, yes." "When did you see Dr. Cunningham last?" "Well, I haven't seen him since the first time you sent me over there." Now of course you see that's all wrong according to Dr. Cunningham's view and I think he is correct.

I want to say that up to the present time we are very largely in the dark as to the actual application of the theories that seem perfectly good but the practicability of which is still questionable.

Dr. Cunningham (Closing): Take Dr. Cooper's question first, the methods of testing. There are three definite methods of testing. First, the scratch test. The scratch test is used more universally than any other. It is not as sensitive as the intradermal but it is less dangerous. All these people who do intradermal testing, if they have done any amount of it, will do scratch testing first and if they get a violent reaction to the scratch test they don't bother about doing that one intradermally. There have been several fatalities with intradermal testing, so that anyone doing any appreciable amount of this work must do his scratch test first and then test with the intradermal solutions. The intradermal is quite sensitive and sometimes too sensitive.

The patch test is very valuable in cases of skin manifestations and it is quite a tedious procedure. You should leave on the patch at least twenty-four hours. In certain acne cases, they eat the food at night and the next evening start

the little itching which is the coming of a pimple on the face. In the eczema cases, they run into the pollen today and are perfectly comfortable tonight. They say, "That was certainly a great trip I had because I wasn't hit today." Tomorrow noon they are in to tell you that they got hit yesterday. The answer is that it takes about twenty-four hours for certain of these things to demonstrate themselves when the patient comes in contact with them.

Dr. Mugrage is quite right that 100 per cent of people being allergic is probably nearer true than 60 to 70 per cent, because time after time when you are taking these allergic histories the individual denies that there is any allergy in the family and yet his picture is one that belongs in an allergic group. You test him and he is sensitive to forty or fifty foods. Not only that, but taking the foods out of his diet, the individual obtains results,—which is much more important.

I would not exclude human milk. I had a doctor's wife taking hay fever treatments. She had a nursing baby. Every time we gave her a hypodermic injection of hay fever solution, the next day the baby broke out with eczema. When we stopped the hay fever treatment, the baby's eczema ceased.

Dr. Vaughn, in doing the white count determination, was very careful to do two or three white counts before the patient was given food, then to give him the food and do one or two white counts afterward. He controlled his work very well.

Dr. Cooper mentioned the climatic changes. Many individual climatic changes cause marked changes in the mucous membrane. It is normal for the mucous membrane, as I understand, to adjust itself very quickly to climatic changes. In an allergic individual there is apt to be a mucous membrane which is disturbed by the food he has eaten that morning or the day before, by the pillow he has slept on, and so forth. Then with the added change of heat or cold there are allergic manifestations, which are, of course, always laid on to the most recent thing he has seen.

Dr. Levy is right—we have to keep our feet on the ground. We are not talking about all of internal medicine, by any means. We are talking about these people in internal medicine who have allergic manifestations, and it doesn't mean that you should simply take an allergic history; you must take your ordinary history of an individual, but always ask about allergy because allergy will only make up a small percentage of your cases but it makes up a small percentage of people who do not get results.

If they are allergic and you don't do anything for their allergy, you are never going to get a result doing anything else for them and you will have these people who have diarrhea all their lives and have gone all around the world for relief and have obtained none because they need a skin test, and in twenty-four hours after skin test, their mucous colitis and diarrhea has completely left and they are different people.

On the question of tests, you can test them for three or four hundred things and it may be the four hundred and first test that they may need. I have seen that demonstrated very many times. I remember one girl who was tested by a very capable man and I think he must have run short of cat hair because it was the only thing he didn't put on her, but it was the only thing that caused her asthma.

You have to do a very general test, re-check it and re-check it again if necessary, if you are dealing with an allergic individual.

POSTOPERATIVE TREATMENT BASED ON PHYSIOLOGIC PRINCIPLES*

J. RAYMOND PLANK, M.D.
DENVER

Postoperative treatment is as old as the art of surgery. However, it has only been during the past few decades that proper attention has been given to this extremely important phase of the surgical case. The two factors that are responsible for the advances that have been made are: First, the accumulation and proper evaluation of clinical data, and second, the application of determined facts that have been found by physiologists and biochemists.

The two most important processes that occur in any individual who has had an abdominal operation are as follows: 1, ileus and 2, dehydration. Each of these conditions will be discussed in detail.

The primary factor responsible for ileus is due to the irritation of the peritoneum and the stimulation of the splanchnic nerves which are composed of sympathetic fibers and have an inhibitory effect on the intestinal musculature. This varies in each operation and generally speaking it may be said to be proportionate to the amount of manipulation that is done either to the peritoneum or within the peritoneal cavity. Dehydration of the visceral peritoneum also occurs as a result of the operation and the altered physical media to which the peritoneum is exposed. As mentioned above the severity or length of time that ileus persists after abdominal operations is proportionate to the

*Presented before the Sixty-fifth Annual Session of the Colorado State Medical Society at Estes Park, September 6, 1935. From the Department of Surgery, Tulane University, New Orleans La. The author acknowledges his indebtedness to Dr. Alton Ochsner, Professor of Surgery at Tulane, for his assistance in the preparation of this manuscript.

amount of trauma that the peritoneum is subjected to and is, therefore, most pronounced when peritonitis follows the operation. The ileus that occurs immediately after any abdominal operation persists usually for about eight to ten hours, unless the peritoneum is continuously irritated, and is called functional or metalaparotomy ileus by Dr. Ochsner because there is no organic change in the intestine.

Functional ileus is in itself of little importance providing, however, that it is recognized and nothing is done that would prolong or aggravate it. There is a very definite change that occurs in the normal physiology of the gastro-intestinal tract following an abdominal or retroperitoneal operation. The three primary changes that occur are changes in 1, tonus; 2, absorption; and 3, secretion. These changes produce very marked effects and set up, as it were, a vicious circle operating in the following way: As a result of splanchnic stimulation there is a loss of intestinal tonus and of peristalsis. In addition to this the upper portion of the gastro-intestinal tract secretes large amounts of digestive secretions; the pancreas and gallbladder also pour large amounts of secretions into the duodenum—the total amount for each twenty-four hours being 7500 to 10,000 c.c. As a result of stasis of this fluid the intra-intestinal pressure is increased and interferes with the venous return, so that a transudation of fluid into the intestinal lumen occurs which further increases the intra-intestinal pressure. Normally all except about 300 c.c. is reabsorbed in the lower gastro-intestinal tract. However, in ileus these secretions are not propelled onwards in order that they may be reabsorbed. This loss of fluids helps to produce dehydration and chemical changes in the blood.

Unfortunately, many recognize the early clinical manifestations of ileus as being a necessary part of postoperative or postanesthetic recovery. The most frequent clinical signs of ileus are nausea, vomiting and distension—the latter, of course, being a late sign. The length of time that the functional ileus persists depends entirely on two factors, the first being the severity of the operation, the second being dependent on the postoperative treatment. It is unnecessary to mention that the severity of functional ileus can be minimized at the time of operation by handling the intra-abdominal viscera gently and preventing contamination of the peritoneal cavity.

The treatment we have used after every abdominal operation is as follows: First, absolutely nothing by mouth. The reason for this being that the gastro-intestinal tract is inactive from a motor point of view and the upper part is already filled with its own secretions. The giving of fluids at this period of functional ileus only aggravates the condition. Second, the administration of morphine. Morphine is given liberally and not because it diminishes the pain but because of its effect on the intestinal tonus. It has been shown by many investigators that it produces an increase in the tonus of the intestines in both normal and obstructed intestines. It was formerly believed that morphine inhibited gut activity. The amount of morphine administered depends on the age of the patient and the extent of the operation. In the average adult one-fourth grain is given every four hours and its use is continued until the gastro-intestinal tract begins to function normally. Third, a heat tent is applied to the abdomen. This is done because it has been shown that there is a reciprocal blood supply between the abdominal wall and the splanchnic vessels. The application of heat to the abdominal wall produces an increased blood supply to the abdominal wall and a decreased blood supply to the intestines. This favors the promotion of intestinal peristalsis and decreases the amount of secretion into the intestinal lumen. In ileus the splanchnic blood vessels are dilated and overfilled. This produces an increased secretion into the intestinal lumen and decreases the amount of absorption from the intestine, which can resolve itself into a vicious circle. The heat tent aids in correcting this condition. Fourth, indwelling duodenal catheter. In every patient who has had any extensive surgical procedure in the upper abdomen

an indwelling duodenal catheter is inserted through the nose immediately after the operation and active suction is started by either the Wangensteen or Bartlett method. This prevents the accumulation of secretions in the upper intestinal tract and also prevents gastric dilatation and vomiting. By following this regime the first postoperative day is extremely smooth and vomiting never occurs. In the usual case the postoperative ileus usually subsides in eight to ten hours. Following its subsidence the following regime is followed:

Sips of warm water are given and, if tolerated, hot tea or fat free broth is allowed. Sweetened fruit juices or sweetened drinks of any kind should never be given postoperatively, the sugar undergoes fermentation and abdominal distension occurs as a result. The heat tent and morphine should be continued for twenty-four hours because of their effect on intestinal tonus.

In the usual case the patient can tolerate a soft diet twenty-four hours after he has had sips of warm water. Then twenty-four hours later the patient may have a full diet. As soon as the patient is put on a full diet he is given one ounce of mineral oil twice each day. On our service we have discontinued entirely the giving of enemas and flushes postoperatively. When the bowel cannot empty itself when distended with gas and fecal material, it is not logical to assume that it will empty an additional amount of fluid. The amount returned is always less than the amount introduced when it is measured. Likewise, cathartics should never be given postoperatively as they can have no effect on the ileus except to make it worse.

It is also our practice to catheterize patients every eight hours if they are unable to void because, otherwise the resulting stasis, distension, and vascular interference is more apt to produce cystitis. Experimentally it is extremely difficult to infect the normal bladder.

The second important factor in postoperative treatment is that of water balance. Water makes up approximately 70 per cent of the body weight. In health the water balance is regulated by thirst and appetite. In the pre- and postoperative treatment it is regulated by the surgeon. In the usual elective surgical case dehydration is due to the preoperative withholding of fluid and the insensible water loss by respiration and perspiration. The body tries to conserve its water in such cases by decreasing the amount of urine formed; however in its attempt to do this, many waste products are retained. In ileus, large quantities of fluids and electrolytes are lost through the intestinal tract because none of the intestinal secretions are reabsorbed.

The clinical manifestations are quite marked and consist of thirst, dry hot skin, and dry tongue. The treatment consists in the administration of fluid. In the postoperative patient the fluid cannot be given by mouth and usually should not be given by rectum. The two remaining ways of giving it are subcutaneously, which is at times painful, and intravenously which is, generally speaking, the best. Usually physiologic salt solution and 5 per cent dextrose solution is given. Enough fluid is given to maintain a twenty-four-hour urinary output of 1000 to 1500 c.c. In the average patient this means the giving up of 3000 to 4000 c.c.

In cases in which persistent irritation of the peritoneum occurs in extensive operative procedures or in peritonitis, the ileus that follows is not a functional ileus but a true adynamic ileus. This can also be brought on by the too early administration of food or by giving hypertonic dextrose in 10 per cent solutions or higher. In true adynamic ileus the same pathologic physiology is present except in a greater degree.

There is an increasing secretion into and a decreasing absorption from the intestinal lumen. The abdomen is distended and the patient may vomit frequently. In addition to this the patient may become dehydrated. The tongue becomes dry and also the skin. The eyes appear to be sunken. The treatment of this condition is fundamentally the same as for postoperative ileus, namely: 1, nothing by mouth; 2, heat into the abdomen; 3, the frequent administration of morphine; 4, the use of the indwelling duodenal

tube. In addition to this a number of drugs have been used for the purpose of increasing peristalsis. Perhaps the most frequent used is pituitrin. Dr. Oschner has found that the best stimulant for peristalsis is the intravenous injection of 15 to 20 c.c. of 20 per cent Hartmann's solution. This is a modified type of Ringer's solution. Eserine will likewise produce peristalsis. It is apparent from the above that the important factors in combating ileus are measures that will keep the intestines from becoming distended, in order that normal peristalsis will occur and that the dehydration and loss of electrolytes that occur is cared for by the administration of fluids and electrolytes. These measures tend to maintain the patient at a normal physiological level and aid in an ultimate recovery.

ABSTRACT OF DISCUSSION

R. W. Whitehead, M.D. (Denver): My discussion will be not at all from the clinical standpoint; however, there are certain factors which might well be emphasized from the physiological standpoint. First, with respect to the etiology of ileus, Dr. Plank has called our attention to the fact that it is frequently associated with operations in which the peritoneum is irritated; in fact, it does occur also in other conditions where there is no involvement of the peritoneum. This would seem to indicate that in these cases, at least, some other factor is responsible for the distension of the intestine and inhibition of peristalsis and it would appear likely, from experimental studies, that this is due to reflex effects involving the sympathetic nervous system in the region of the sympathetic supplying inhibitory impulses to the intestine.

You will recall that the intestine itself is supplied with two intrinsic plexuses, the plexuses of Auerbach and Meisner, and that the intestine itself can continue to function when the vagus and sympathetic nerves are cut; peristalsis can continue, but these nerves serve to regulate. In one case they are in force through the vagus and in the other through the sympathetic nerve.

Inhibitory impulses are generally carried to the intestine and reflex effects may involve the intestine from other sources than the peritoneum. In cases following injuries to the lower chest, ileus may be explained on the basis of reflex effect through stimulation of the splanchnics resulting in inhibition of peristalsis.

In anesthesia, there are volatile anesthetics definitely known to inhibit peristalsis. The effect of ether seems to be directly upon the intestine itself and not through the nerves, since the intestine is inhibited even after the vagus and sympathetic nerves are cut. Morphine administration, as Dr. Plank has said, definitely increases the tone and peristaltic contractions of the intestines. Therefore it should be of value where there is lack of intestinal contractions. This effect is probably exercised directly to the intestine itself, perhaps through the intestinal plexuses. This is probable because it also works when the splanchnics and vagi are cut. That it acts upon the sphincters to increase their tone and to decrease the propulsion through the intestine might be a theoretical objection to the use of morphine, although it seems to have a beneficial effect under most circumstances. It decreases tone in very large doses, however.

I wish to ask Dr. Plank what has been his experience with such drugs as pitressin, pituitrin, etc. Some of the English workers are using acetylcholine for the vagus stimulating action in increasing the peristalsis.

In conditions where there is intestinal distension and interference with the circulation, a great deal of the normal intestinal secretion is not reabsorbed and therefore interferes with water balance.

Dr. Plank (Closing): In answer to Dr. Whitehead's question in regard to pituitrin, pitressin, prostigmen, and acetylcholine, we have not done any experimental work at all. With pituitrin we were unable to demonstrate any increase in tonus in animals in which the intestinal obstruction was produced.

Next to the concentrated Hartmann's solution, the most powerful stimulant we have found in case of a dynamic ileus has been prostigmen, which is a derivative of eserin.

Erratum

Misplaced lines, a distressing if infrequent mechanical error in publication, clouded the meaning of three paragraphs near the close of Dr. Philip Work's article, "The Medical Witness," in the June, 1936, issue of Colorado Medicine. We apologize. The correct paragraphs, replacing the similar three in the second column of Page 404, follow:

You have the privilege of referring to your notes "made at that time" to refresh your memory. Reading from them, however, may complicate terribly your cross examination. It is courteous to ask the judge for permission to refer; he may ask a few questions, but will usually give permission.

Rights of privileged communication are rigidly safeguarded. Information received while engaged in actual care of a patient is inviolate except insofar as these restrictions may be abrogated in insurance cases where a waiver is part of the contract, or in special cases where the Court will rule upon the matter. Information tending to injure the reputation of others may not be divulged. In certain circumstances or communities it will prove a protection to the doctor later if he asks to be subpoened even though he be willing to appear without it.

In examining a patient against interest prior to trial be certain that the patient knows for whom you are examining. Else you may be in for a distressing few minutes on cross examination.

SOME OTOLARYNGOLOGICAL PROBLEMS ENCOUNTERED IN DAILY PRACTICE*

HAROLD L. HICKEY, M.D.
DENVER

In a medical society whose meetings are intended to attract the interest of physicians as a whole it seems to me that no subject discussed from the standpoint of a limited field of practice can command the attention of any great number of individuals. Such considerations should be reserved for the special societies. However, every physician engaged in general practice is frequently called upon to handle, at least in their beginning, some conditions which concern the field of otolaryngology. The purpose of this presentation is to call attention to a few salient features in the management of such conditions. It is obviously impossible to discuss more than a limited number of what I have termed "problems" and it is equally improbable that I have selected all of the most common or troublesome diseases. Also bear in mind that my remarks while reflecting what I believe to be accepted procedures must necessarily represent personal conclusions with which others may not entirely agree.

The urge to present such a paper has grown out of teaching contacts with medical students and nurses, staff association with internes and residents, conduct of National Board examinations, etc., all of which are leading more and more to the idea of better training in all fields of medicine and surgery. And while I believe that specialization has a distinct place in practice I also feel that the crying need in city as well as rural practice is for the well trained doctor who has sufficient knowledge to treat intelligently those things he undertakes and also to realize when his own limitations have been reached.

Methods of examination: In no field can more information be gained than in the ear, nose, throat and sinuses by keen observation with the senses of vision, touch, hearing and even the olfactory sense, of the examiner. With all due respect to such valuable aids as the laboratories are at times, we often ignore what could be observed clinically and expect the laboratories or x-ray to supply that information. The head mirror, almost considered the emblem of the E. N. T. man, is indispensable for the examination of the nose and throat and to me is far preferable to the otoscope even for bedside examination of the ear. A little routine use of the head mirror will convince those of you who have discarded it what a surprising amount of information you can derive with its aid.

The Danger Zone of the Face

The nasal vestibule, alar region, upper lip and occasionally the lower lip and chin constitute an area from which rapid absorption may take place from insignificant appearing pimples or postules via superior labial, angular and ophthalmic veins to the cavernous sinus with fatal thrombosis of the latter, or via facial veins to internal jugular vein with septic thrombosis, the entire cycle often taking place in a few days. Hence any undue traumatism or premature incision of small suppurating areas in this region should be avoided. Hot compresses and conservative treatment until lesions are well localized may save you the distressing outcome mentioned above.

Nasal Symptoms of an Acute Head Cold

These symptoms often call for treatment at least from the standpoint of the patient

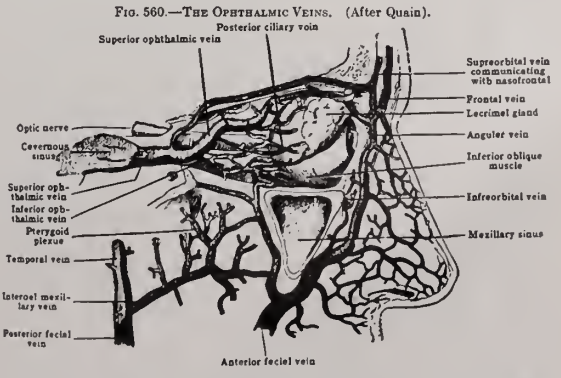


Fig. 1. Absorption channels leading to cavernous sinus.

*Read before the Denver County Medical Society, April 7, 1936.

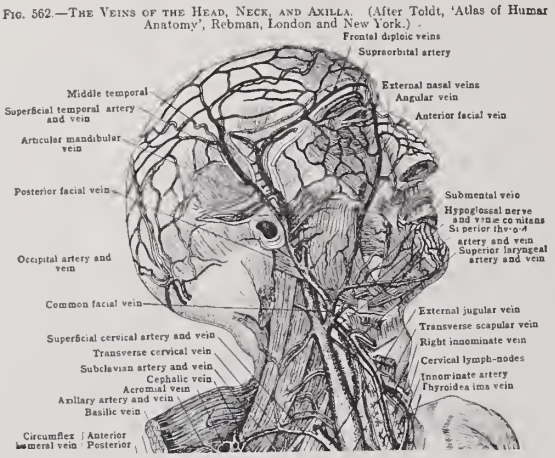


FIG. 562.—THE VEINS OF THE HEAD, NECK, AND AXILLA. (After Toldt, 'Atlas of Human Anatomy', Rebman, London and New York.)

Fig. 2. Absorption channels leading to internal jugular vein.

in spite of the fact that most of us acknowledge that bed rest is the most important item in management. Ephedrine, one of the most universally used medicaments in the past few years, is a valuable aid in promoting comfort as well as ventilation and drainage of the nose and sinuses; however, its abuse alike by physician and laity is widespread. Repeated frequent use of this drug especially in high strengths or in individuals with sensitive mucous membranes produces the picture of dry red, crusted or excoriated mucosa, and in children angry lesions radiating from the nares down onto the upper lip constitute mute testimony of the excessive use of ephedrine. Frequent use of the more volatile forms as in inhalers may cause disturbing vertigo and faintness.

The use of organic silver solutions in the nose is a moot question to be decided by the individual physician. Certainly they should not be used for long periods, as argyrosis is not uncommon. To me the least harmful and most grateful medication especially in our dry climate seems to be a bland aromatic oil combination in a mineral oil base; however, in tiny infants even this should be used cautiously in view of the authenticated reports of aspiration of oil into the lung with subsequent pneumonia. Sudden forcible inhalation with apnea in infants may result from the use of highly mentholated oil as nose drops.

Acute Sinusitis

With nasal or postnasal purulent discharge *in which the course exceeds ten days to two weeks,* acute rhinitis points very strongly to sinus involvement and as such should be investigated competently. Careful use of a transilluminator will frequently reveal a dark antrum. More detailed study may require x-ray films. During the course of an acute maxillary sinus infection attention may be directed entirely to the upper first molar teeth and not a few extractions of sound teeth have occurred before the dental symptoms were traced to the infected antrum. In contrast to chronic maxillary sinusitis where pain and tenderness are not common, in the acute condition firm pressure over the canine fossa will usually elicit some tenderness. Tenderness in acute frontal sinusitis is more commonly elicited under the brow above the inner canthus of the eye where the wall of the sinus is thinnest rather than over the thicker external plate. Proper treatment of acute sinusitis results in recovery in the majority of cases. Particular emphasis should be placed on the value of conservative treatment of sinus disease in children.

This seems to be a proper place to refute the idea present in the minds of many physicians as well as the laity that "once a sinus always a sinus." I believe investigation of any case of protracted sinus disease with unhappy sequellae will resolve itself into a history of neglect over a period of years until chronicity was well established or unwarranted surgery during the early acute stage. It is the old story here as in other fields; we hear and emphasize the few unfortunate results, overlooking the much larger number of satisfactory results.

I shall pass with little comment the subjects of nasal irrigation and "packs"—the first because I believe it may easily cause more harm than good even in experienced hands and the second because it can be and often is used as a substitute for proper study and diagnosis to the detriment of the patient as well as the physician.

Acute Otitis Media

Why or when shall we open an ear? A common complication of upper respiratory diseases as well as the exanthemata, otitis

media or earache is a frequent reason for calling the doctor. In addition to ascertaining temperature, an important item in ear disease, especially in children, an adequate examination to visualize the drum is essential. In an infant this is frequently not easy. Debris in the auditory canal may require removal by applicator or irrigation before a proper view can be obtained. A bulging tympanic membrane with pain and fever certainly indicates prompt incision for drainage as a cardinal surgical principle. However, in the absence of definite indications indiscriminate opening of the tympanic membrane, especially in young children, merely because it is slightly inflamed and there is no other patent cause for fever, constitutes a calamity. In spite of reasonable care, how do we know that we are not introducing into a middle ear the elements of future danger in the form of suppuration with its complications as well as damage to hearing. These factors should be weighed a little more unless the indication is very clear. With the proper care of nose and throat infections, hot ear irrigation and judicious use of warm phenol in glycerine ear drops many cases of acute otitis media do not require myringotomy.

Acute Mastoiditis

At what stage of acute middle ear disease does acute mastoiditis occur? This may seem a foolish question and yet I have known of occasions where reputable physicians have alarmed parents by ordering mastoid x-ray plates within twenty-four hours of the beginning of an otitis media. This shows a lack of appreciation of pathology and results many times in unnecessary economic stress, which item we cannot ignore at a time when the profession as a whole is "on the spot." Some invasion of the mastoid cells probably takes place within the first week of an acute otitis media only to resolve in most cases as the otitis improves; mastoiditis as an entity usually requires ten days to two weeks as a minimum to develop and may not be evident until the third to sixth week. In the later periods radiographic study is of real value in determining the stage of bone involvement in contrast to the negative information which would of necessity be reported early in the otitis media.

Foreign Bodies in the External Auditory Canal

Foreign bodies frequently call for skilled removal. Unless one is experienced in manipulations in the ear, irrigation with a bulb or metal syringe is the safest method. If the obstructing material is either cerumen or dry discharge, preliminary softening with hydrogen peroxide greatly facilitates the removal. Regardless of the nature of the foreign body good illumination is essential in its management.

The difficulties and dangers to which imprudent attempts at instrumentation in an ear may lead is illustrated by the case of a child of seven brought to me about a year ago from a neighboring state. The parents stated that they had taken the child to the family doctor who administered an ether anesthetic and attempted instrumental removal of a foreign body placed in the ear by a play-mate. When I saw the patient a few days later the auditory canal was brutally traumatized and a bloody discharge was issuing from the canal. Extensive swelling precluded a view of the fundus until forty-eight hours later when it became evident that more than half of the tympanic membrane had been destroyed. There followed a stormy course of otitis media, mastoiditis, labyrinthitis, facial and lateral rectus paralysis together with meningitic irritation which fortunately did not proceed to true meningitis. Mastoidectomy resulted in recovery of VI, VII, and VIII nerve function and a dry ear, but the patient still has a large tympanic perforation which will never close and will be a constant menace; he also has lost about 50 per cent of hearing in the involved ear. It is quite likely that a little more care at the beginning might have averted this train of disaster.

Acute Follicular Tonsillitis

This condition is so common in practice as to become almost a garden variety. But how many of us make any routine attempt to determine whether it may be something other than a simple pyogenic infection? Here

clinical observation alone may be misleading. About sixteen years ago I saw a child with what appeared to be a typical follicular tonsillitis and treated him as such; I did not see the patient again, but imagine my horror when three days later I saw his death notice in the morning paper. Investigation revealed diphtheria as the cause of death. Since that time, culture of all acute throats has been routine in my practice. In an adult, especially with unilateral tonsillitis, direct smears will not uncommonly reveal the spirilla and fusiform bacilli of Vincent. These organisms do not grow under the conditions of usual culture as they are anaerobic.

"What about tonsils?" is the title of an excellent article by S. B. MacMillan in the November, 1935, Canadian Medical Journal; if you have not read it, I recommend it for your thoughtful and deliberate perusal. Such a question might form the basis of an extensive discussion, but it is either a very brave or very foolish person who would raise this question under the present circumstances. I shall content myself with just a few observations which seem important.

Tonsillar infections are unquestionably responsible for numerous other illnesses whether as a result of bacteremia or toxemia, but they are not a justifiable cause of all the ills of mankind. A recommendation for tonsillectomy should be preceded by a careful history, adequate examination with a good light and a pillar retractor, and should have more basis than a casual snapshot decision. Many angles must be considered such as local findings of inflammation, presence of regional adenopathy, bona fide history of acute tonsillitis or quinsy; if considered purely on a focal basis, has the condition attributed to tonsillar infection been adequately treated without success? Have other sources of infection been sufficiently evaluated for exclusion? The opinion of other physicians concerned in the case may shed light which will assist in a conclusion and if you feel the opinion of an otolaryngologist may be helpful remember that you have much to contribute from the general medical aspect of the case; cooperation among physicians with different viewpoints is most desirable in such a case.

Tonsillectomy is performed more frequently than any other operation in the realm of surgery and yet its technical difficulties have been regarded so lightly and the operation undertaken by so many physicians with little or no special training or accurate knowledge of local anatomy that the results are far from satisfactory by and large; this leads to indictment of the operation when in reality the operator is at fault. I have no quarrel with the physician, not a specialist, who essays the removal of tonsils if he will give it the same care which he would devote to supposedly more major procedures. Any method or technic may be used which assures complete enucleation and preserves the surrounding tissues from damaging or destructive traumatism; and don't forget that there are real hazards and complications to this so-called minor operation.

Conclusions

If any conclusions can be drawn from this discussion they would be: 1, Careful observation with good illumination; 2, gentleness in manipulation; 3, and willingness to cooperate with our confreres are for the best interests of ourselves and the patient.

Insulin should be tried in every case of functional dysmenorrhea.—J. A. M. A.

Vaccines made from bronchoscopically removed secretions are of value in so-called bacterial allergy.—Annals of Internal Medicine.

Theobromine sodium salicylate, in the dosage and by the methods used, is too unreliable and feeble a vasodilator to be of value in peripheral vascular disease.—Journal of Clinical Investigation.

The average number of medical graduates yearly from 1931 to 1935 was 5,417. The average number of deaths of physicians yearly for the same period was 3,960. The number of new graduates each year exceeds the number of deaths of physicians by 1,457.

EVIPAL ANESTHESIA FOR MINOR SURGICAL PROCEDURES*

CLIFFORD LEE WILMOTH, M.D.
DENVER

Evipal has been used during the past three years by an increasing number of surgeons. The success with which the surgeon uses evipal is determined, as in other important surgical procedures, by his attention to details. It has proved to be a relatively safe anesthetic which is less cumbersome and more readily available than many of those more commonly used. It seems particularly adaptable for the doctor who does minor operations in his office or in the home and who does not have the services of a skilled anesthetist at his command. It is very useful as an anesthesia of short duration for the emergency room and the outpatient dispensary.

Evipal is not recommended necessarily routinely as a substitute for local or inhalation anesthesia, but we feel that its value as an anesthetic has been amply demonstrated. While evipal may be classed as an uncontrollable intravenous anesthetic, yet its extremely rapid elimination and its large margin of safety brings it close to the controllable group.

My personal experience with evipal covers only the past eight months in fifty-eight cases. All of these were hospital patients with every means at hand to counteract any unfavorable reaction. No occasion arose to cause anxiety in these few cases. The following types of operations were done under evipal anesthesia:

Abscess, hand and perirectal	17
Amputation of fingers	8
Appendectomy	1
Bursa, olecranon, excision of	2
Carbuncle of neck, excision of	2
Dislocations, shoulder and fingers	3
Fractures of upper extremity	7
Herniotomy	2
Manipulation of partially ankylosed joints	3
Neuroma, excision of, in painful stump	2
Skin graft, pedicled	1
Tumor of face, excision of	1
Plastic on face	5
Secondary ligature of femoral artery	1
Varicocelectomy	3

The appendectomy and herniae were done to determine with what success abdominal work might be undertaken with evipal anesthesia. The anesthesia was quite satisfactory and relaxation excellent. However, in some patients to whom evipal was administered with other conditions, it was evident that satisfactory relaxation would not have been sufficient to do such operations as appendectomy with ease. For the hernia and appendix, spinal or other types of anesthesia still appear preferable. Evipal is particularly valuable in operations about the head and face, or about the neck, as the operator is not hampered by the anesthetist.

Evipal soluable is obtained in sterile ampules containing one gram of the drug. The white crystalline powder is dissolved in ten cubic centimeters of sterile distilled water. This makes a 10 per cent solution. The amount to be given the patient depends essentially upon the individual reactivity of the patient. It also depends upon the duration of the anesthesia desired. While theoretically if the weight of the patient in pounds be multiplied by 0.06 the safe number of cubic centimeters of the 10 per cent solution may be obtained. In practice, however, I have not found this small amount sufficient for operations requiring more than ten or fifteen minutes.

In the majority of adults 3 to 4 c.c. of the 10 per cent solution are required to induce unconsciousness. This amount is injected into the vein of the forearm slowly over a period of 20 to 30 seconds. The patient is instructed to count slowly until he falls asleep. After a brief interval 2 or 3 c.c. more are injected and it is usually found that the patient sleeps soundly for a period varying from five to fifteen minutes. For operations such as appendectomy or herniotomy two ampules or two grams of evipal may be required. The first ampule of 10 c.c. is usually given within the first five minutes and if the patient shows signs of awakening an assistant may inject a part or the whole of the second ampule. The second ampule is never given immediately following the first, but only after some period of time

*The material for this paper is from the U. S. Public Health Service, division of Marine Hospitals.

has elapsed and only if the patient shows signs of awakening. It is then given more slowly and with careful observation for evidences of toxicity.

No preliminary medication of morphine or other sedative was used. The induction was in all cases entirely quiet. The patient may yawn once or twice as he becomes somnolent. As the patient goes to sleep the jaw usually drops and the tongue tends to fall back and may interfere with respiration. For this reason a doctor or nurse should see that the jaw is held up and that an airway is inserted if respirations are not normal.

The pulse remains full and regular with slight acceleration of the rate in some cases. There may be a slight drop in the blood pressure. The color remains pink and unless there is interference with respiration there should be no cyanosis.

The induction of evipal anesthesia and the recovery are rapid and comfortable. With small amounts injected for minor operations the patient is again ambulatory after a short period of time varying from ten to twenty minutes. With the administration of a whole second ampule the patient will usually sleep quietly for forty-five minutes. With the larger amounts, the patient may show some restlessness at the return of consciousness, will answer questions when aroused, and then may go back into an apparently normal sleep which, if undisturbed, may last for one or two hours. Occasionally a patient will be temporarily difficult to manage and will behave like a slightly intoxicated person.

In a number of minor operative procedures such as opening an abscess of the hand, when a small amount of evipal is used, the patient may object strongly to the operation by attempting to withdraw the hand. However, when the operation is completed and the patient has awakened he is wholly unaware of having experienced any pain or of having struggled during the operation. It has been our custom to have the patient count slowly, and as sleep comes on he slows and then ceases counting usually before reaching twenty-five. As consciousness is regained some minutes later quite a number begin counting from the point at which they ceased when they went to sleep. Slight muscular twitchings were noted in about 30 per cent of patients. In 15 per cent of patients relaxation did not occur.

In three patients intramuscular injections of one gram of evipal were given one hour before operation to determine the stage of anesthesia which might be induced by that method. The results were not satisfactory as the patients became restless and behaved in a slightly intoxicated manner and apparently obtained no appreciable analgesia.

Since evipal is a respiratory depressant and since it is eliminated in the bile and through the kidneys it would seem advisable not to give it to patients with any respiratory difficulty or in those with definite renal or liver pathology.

Summary

Evipal anesthesia is relatively safe and is quite satisfactory for operations of short duration, particularly those about the head and neck.

Its ease of administration, rapidity of induction, rapidity of recovery and freedom of unpleasant after-effects make it particularly useful to the doctor who does his minor surgery in his office or in the home and does not have a skilled anesthetist at his command.

It is of use in the emergency operating room or large outpatient clinic. It is valuable for the emergency surgical patient who has a respiratory infection that may contraindicate the use of an inhalation anesthesia.

Evipal is satisfactory for the patient who objects to a general inhalation anesthesia or to a spinal injection, yet has some surgical condition requiring a general anesthesia of short duration.

Homografting (transference of skin from one individual to another) is useless, deleterious and unnecessary.—J. A. M. A.

The jaundiced patient should not be refused operation on the suspicion that malignancy is the cause of painless jaundice.—American Journal of Surgery.

CASE REPORTS

COLLOID CYST OF THE THIRD VENTRICLE

J. R. JAEGER, M.D.
DENVER

The incidents of the successful removal of a colloid cyst from the third ventricle of the brain have been recorded so infrequently that the reporting of the accomplishment of this procedure is justified. The literature pertaining to miscellaneous cystic tumors of the third ventricle has been exhaustively studied by Dandy and Stookey. Prior to the report of the following case, only six instances of a successful removal of a tumor of this type from the third ventricle have been recorded. Dandy has reported four cases, and Stookey, one case. Zimmerman reports one removed by Dr. Samuel C. Harvey. The present instance records the one stage operative removal of a colloid cyst of the third ventricle, without postoperative complications and with a complete recovery.

CLINICAL HISTORY AND FINDINGS*

E. H., supply man, railroad shop, aged 24, seen April 9, 1934.

Patient complains of headache of approximately a year's duration. Pain begins in the right side of the back of the neck and back of the head and radiates forward to the right side of the forehead and sometimes into the left side of the forehead. When it reaches the left side of the forehead, the pain forms a V-shape in the front of the head and the veins of the forehead stand out. Sometimes there is a feeling as though the right eye were being pulled over toward the nose. Patient is sometimes free from headache for a day or two at a time. With headache there is sometimes a beating in the ears which makes him feel sick at the stomach. He has vomited occasionally when the pain has been severe. He also has dizziness with the headache, but vertigo occurs at times without headaches. He has fallen twice because of dizziness.

Patient says that both breasts have been swollen and that recently the swelling of the right breast has gone down. This appears to be the observation of a chiropractor rather than the patient's observation of himself.

He has been able to continue at his work despite the headache. At times he would have to lie down on a bench. During the past two months he has been driving a truck. He may be all right when driving out and when loading up the truck, but usually he has a headache when coming back. This frequently makes him sick at the stomach.

Strength is good. He says that he has lost three pounds in weight during the past two weeks. Bowels, regular. No worry or anxiety. He had pneumonia at fifteen. Drainage of left chest apparently for empyema at sixteen. Family history, negative.

The physical examination is substantially negative. No irregularities of the skull. No rigidity of the neck. All tendon reflexes normal. Pupils normal. Eye grounds normal except for blackish pigment in the right lower quadrant of right retina. Blood pressure, 150-78 at initial examination. On the following day blood pressure, 142-70. Heart, negative. Pulse rate, 72. Temperature, 98.0. Throat, somewhat reddened.

There is no definite evidence of organic neurological disease although the x-ray plates suggest the possibility of pituitary enlargement. The patient was given x-ray treatments to the pituitary region.

September 11, 1934: Patient readmitted to Presbyterian Hospital September 8 for continuance of x-ray treatment for suspected pituitary tumor. Patient says that he has been relatively free from headache since completion of the first course of deep x-ray, July 30. Except for some fatigue, he felt quite well until two weeks ago. He has had some headache during the past two weeks, but this was less severe than formerly. He has been sick at the stomach only once—about ten days ago. Patient has not returned to work.

A neurological examination shows no essential difference from the findings of April 9, 1934. The patient was given a second course of x-ray treatment to the pituitary region.

November 6, 1934: He was readmitted to the hospital. Since the last admission the headache has become more intense, and vomiting had oc-

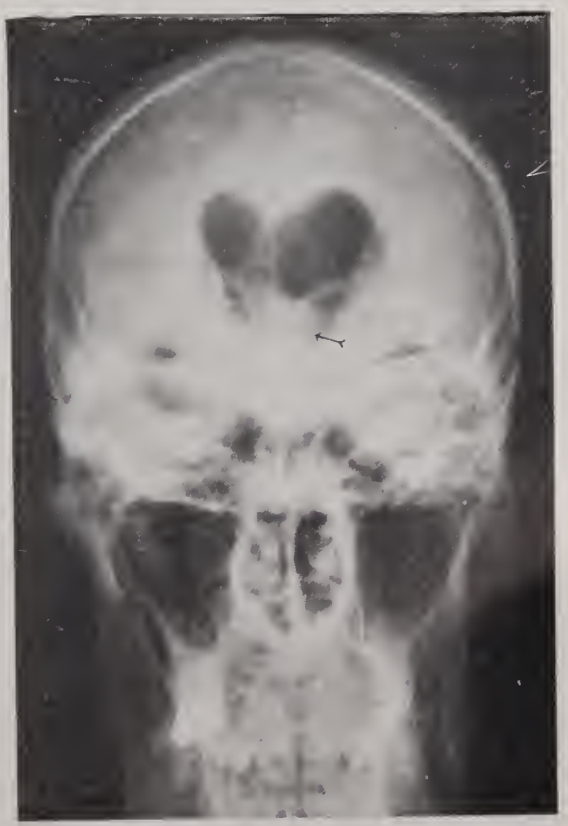


Fig. 1. Ventriculogram showing the globular tumor mass lying in the third ventricle.

*From notes made by C. S. Bluemel, M.D.



Fig. 2. Patient six months after operation.

curred more often. There were no changes in the physical findings. The patient was referred for ventriculographic localization of a tumor thought to be in the region of the third ventricle.

Operative Procedure and Findings

November 12, 1934, bilateral perforator openings were made over the occipital horns of the lateral ventricles under local anesthesia. The right ventricle was easily entered at 4 cm. depth. Twenty-five c.c. of fluid was removed from this side and it was filled with a like amount of air. X-rays were taken which showed a large ventricle on the right side without air in the third ventricle, or in the left lateral ventricle. This indicated a tumor filling the third ventricle. The left lateral ventricle was then punctured at about 5 cm. in depth, and 50 c.c. of fluid was removed and a similar amount of air injected. The ventricle on this side was found to be enlarged, but again the third ventricle did not fill and a round globular tumor mass could be seen filling this cavity. It appeared to extend out somewhat into the left ventricle. The patient was anesthetized with avertin, and a bone flap was turned down, up to the midline, in the left parietal region as in making an approach to the pineal region. The left ventricle was evacuated of the air which it contained by tapping it with a ventricular needle. One large cortical vein was ligated just back of the rolandic vein as it passed across to the superior longitudinal sinus. This permitted the left cerebral hemisphere to be retracted from the falx. The posterior two-thirds of the corpus collosum was exposed. It was sectioned about one-third its length at its posterior end. This readily exposed the cavity of the third ventricle. After aspirating a small amount of fluid an opalescent, glistening tumor mass could be seen beneath the mass intermedia with the thalamic bodies on either side. The tumor was seen to obstruct both foramina of Monro. It was grasped with a long forcep and easily lifted from its location in the infundibular portion of the third ventricle. The tumor was removed along with its entire capsule and content. There was one small vessel supplying it from which a tiny bit of hemorrhage occurred. This was easily stopped by placing a cotton sponge in the depth of the wound. The tumor ruptured slightly just as it was lifted from the wound, and a small amount of its content escaped which was stringy and mucoid in consistency. The ventricular system was filled with Ringer's solution injected into the third ventricle. This caused the left cerebral hemisphere to expand and the rent made in the corpus collosum closed easily. The bone flap was replaced and sutured in place with interrupted silk sutures through the galea aponeurotica. The skin was closed with a continuous dermal suture without drainage. The tumor was approximately one inch in diameter and somewhat oval in shape. It had a pearly, glistening appearance. Microscopically it proved to be a colloid cyst.

The patient made an uneventful recovery following the operative procedure. He was immediately free of headache and vomiting and returned home on the eighteenth day following operation. Since that time he has continued to improve and has been in good health except on two occasions when he had slight attacks of dizziness after exerting himself unduly.

The patient was seen on November 19, 1935. He stated that he had been entirely free of symptoms since last seen, and that he had married and is now working overtime at a railroad shop.

THE X-RAY FOR CORRECTION OF NON-MALIGNANT PELVIC CONDITIONS

Most physicians think immediately of the x-ray for the treatment of malignant conditions, but it is not generally appreciated that the x-ray is commonly used to correct, very successfully, non-malignant conditions.

A large percentage of our female population past the age of thirty-five are sufferers from common conditions peculiar to their sex. Some consider these conditions as natural, while others consult the medical profession in their attempts to be made more comfortable and thus be able to renew their past activities with the normal amount of enthusiasm.

This class of patients are frequently seen by the Radiologists; the most appreciative are the women of thirty-five or over who have been trying to go through the menopause without proper medical care. Some have fibroids, others metrorrhagia or menorrhagia; some have nervous manifestations, hot flashes and digestive disturbances. In all cases they are very miserable and there is probably no necessity for their continued distress. Some are treated locally, others by the different hormones with varying degrees of success. Others are advised that a serious operation will be the only relief. They are familiar with some of the complications and the occasional prolonged convalescence that some of their friends have endured. They therefore may do nothing and continue to suffer.

Practically all of these conditions are now successfully treated by the Radiologist without hospitalization. In fact, most cases are able to continue their customary duties during their course of treatment. A considerable number spend most of their time in bed because of excessive flowing.

Following a course of radiation therapy the results are not immediately obtained, but in the course of three or four months good health is the rule with entire freedom of symptoms. The flowing gradually decreases and stops completely within the next month or two. This gradual process is so natural that the patient receives no shock from the change, and the return to normalcy is rapid. It is a common incident that the patient reporting a year after treatment says she never felt so well in her life and that she has gained weight and strength and her only regret is that she had put off the treatment so long. There are no complications and no mortality. Some have a moderate radiation sickness during treatment, but this is not serious.

The problem of economics facing the patient is encouraging, for the charges made by the Radiologist are about the same as the patient would spend for hospitalization following a major operation, and they may remain active as usual. Many employed women lose no time from their work.

No case of malignancy has occurred in a group of two hundred or more cases which have been treated during the past ten years. The laity who are under the impression that x-ray treatment for these conditions predisposes to cancer are ill-advised. No case has shown any evidence of malignancy. There is no impairment of sexual function and no physical change, such at atrophy of the skin or breasts. Often after prolonged and excessive flowing the patient finally decides to do something. She may then be a poor surgical risk.

The kind and amount of treatment should be left to the Radiologist—just as a surgical case is submitted to the judgment of the surgeon. One should consult a Radiologist in whom he has confidence in the same manner he would a surgeon for operative procedure. H. P. B.

MIDSUMMER RADIOLOGICAL CONFERENCE IN THE ROCKY MOUNTAINS, DENVER

Sponsored by the Denver Radiological Club. August 5, 6, 7, 1936. No registration fee.

1936 GRADUATE FORTNIGHT OF THE NEW YORK ACADEMY OF MEDICINE

For the Annual Graduate Fortnight of the New York Academy of Medicine a subject of outstanding importance in the practice of medicine and surgery is selected and is presented from as many angles as possible. An attempt is made to offer to the profession a grasp of the advances in medicine so that the busy practitioner may be informed as to the last word on a given topic.

The Ninth Annual Graduate Fortnight will be held October 19 to 31 and will be devoted to a consideration of Trauma; Occupational Diseases and Hazards.

Twenty-three important hospitals of the city will present coordinated afternoon clinics and clinical demonstrations. At the evening meetings prominent clinicians from various parts of the country who are recognized authorities in their special lines of work will discuss various aspects of the general subject.

A comprehensive exhibit of books, pathological and research material, apparatus for resuscitation and other first aid appliances will be assembled. Demonstrations will be held at regular intervals.

The medical profession is invited to attend. A complete program and registration blank may be secured by addressing Dr. Frederick P. Reynolds, The New York Academy of Medicine, 2 East 103rd Street, New York City.

THE AMERICAN PUBLIC HEALTH ASSOCIATION ANNOUNCES ITS SIXTY-FIFTH ANNUAL MEETING

New Orleans, La., October 20-23, 1936

The oldest and most powerful association of public health workers in the United States the American Public Health Association, will convene in New Orleans, La., October 20-23 for its Sixty-fifth Annual Meeting.

Drawn from every state in the Union, from Canada, Cuba and Mexico, officials from the various branches of Federal, State, City and County health departments and other agencies active in disease-prevention and health promotion will gather in New Orleans. For four days, the attention of the health and medical worlds will be focused upon the deliberations and recommendations of this band of health specialists.

The Annual Meeting of the American Public Health Association is the place where the report on the state of the nation in matters of public and personal health is presented.

Dr. Thomas A. Parran, Jr., Surgeon General of the United States Public Health Service, is President-elect of the Association and will be honored at New Orleans.

National headquarters of the American Public Health Association are 50 West 50th Street, New York, N. Y., and Dr. Reginald M. Atwater is Executive Secretary.

Medical Organization

Guest Speakers for The Annual Session

IT IS with considerable pride that the Committee on Scientific Work, for the Sixty-sixth Session, announces its selection of guest speakers, each of whom should contribute a presentation worthy of a trip to Glenwood Springs next September even were there to be no other attraction on the program.

The Committee is also pleased to announce that the plan successfully inaugurated last year, whereby guest speakers appear at the close of the morning programs and immediately afterward take charge of a round-table luncheon for discussion and questions, will be repeated at the Glenwood Springs session. This plan proved immensely popular, even upon its first trial.

On the first day of the general scientific sessions—Thursday, September 10—the guest speaker will be Dr. Harold N. Cole of Cleveland, Ohio, on the subject "Some Phases of Syphilis of Interest to General Practitioners."

Harold Newton Cole is considered one of the outstanding dermatologists and syphilologists in the United States, and, in fact, has established an international reputation. Of late he has taken an important part in the cooperative work with the various state boards of health under sponsorship of the United States Public Health Service in efforts toward better control of syphilis. He has been a prolific contributor to the literature of dermatology and syphilis.

Dr. Cole was graduated from Bucknell University in 1906 with the degree Ph.B., received the M.D. degree in 1909 from Western Reserve University, and in 1918 was granted the degree of Sc.D. from Bucknell. In the school year 1910-11 he was the Hanna Research Fellow in Pathology at Western Reserve. He has taught many years at Western Reserve University, where he now holds the title of Clinical Professor of Dermatology and Syphilology. For three years beginning in 1920 Dr. Cole was Secretary of the Section on Dermatology and Syphilology of the American Medical Association, and in 1923 was chairman of that section. Since 1917 he has been active as a member of the American Dermatological Association, and served as the Association's President in 1933. Since 1930 he has been a member of the Council on Pharmacy and Chemistry of the American Medical Association. He maintains his contact with European activities in his specialty through membership in the Deutsche Dermatologische Gesellschaft and the Danish Dermatological Association.

Friday, September 11, the Society will hear two outstanding men in the field of public health, a field whose importance economically as well as scientifically is growing. Dr. W. W. Bauer, Director of the Bureau of Health and Public Instruction of the American Medical Association, Chicago, will address the Society on "Relationships Between the Practicing Physician and the Public Health Worker." Dr. M. F. Haralson of the United States Public Health Service, who for the last year has been Acting Secretary of the Colorado State Board of Health, will discuss "The Medical and Public Health Aspects of the Social Security Law in Colorado." In addition to his major presentation, Dr. Bauer will contribute additional talks in Glenwood Springs, to the Woman's Auxiliary and to lay groups.

William Waldo Bauer was graduated as a Doctor of Medicine from the University of Pennsylvania in 1917, having previously obtained his B.S. from the University of Wisconsin. He served in the Army Medical Corps for two years during the World War, and then entered private practice. After several years of private practice, in Milwaukee, Wisc., and in Canyon County, Idaho, he became interested in the field of public health.



HAROLD N. COLE



W. W. BAUER

He was epidemiologist for the Milwaukee Health Department, and later Health Commissioner of Racine, Wisc. During his service in Racine that city won honorable mention two years and first honors one year in the Inter-chamber Health Conservation Contest of the United States Chamber of Commerce. In addition to directing the A.M.A. Bureau of Health and Public Instruction, Dr. Bauer is Associate Editor of Hygeia, the Health Magazine, published by the A.M.A., and is in charge of all radio programs sponsored by the A.M.A. In this latter capacity Dr. Bauer broadcasts health talks over national radio chains several times each week. He is the author of a book on contagious diseases, and of numerous magazine articles pertaining to health.

Marion Flint Haralson, a native of Mississippi, was graduated in medicine from the University of Virginia in 1915, having previously obtained a B.S. degree from the University of Mississippi. After two years of teaching he entered the United States Public Health Service. During the first year of American participation in the World War Dr. Haralson was engaged in extra-cantonment sanitation, and was then transferred to duty in the office of the Surgeon General in Washington for about a year and a half.

Following the war he was assigned to the State Health Department of Mississippi for a short period and was then transferred to New Orleans for duty in connection with the eradication of an epidemic of bubonic plague. After several short tours of public health duty he was transferred to Europe where for three years he served in Holland, Germany, and France in the enforcement of foreign quarantine regulations with particular reference to the prevention of the introduction of smallpox and typhus into the United States. After his return from Europe he was for three years on duty at Ellis Island Immigration Station, New York.

Dr. Haralson then served short periods of public health duty at the Marine Hospital in Baltimore, at Port Arthur, Texas, in charge of the Sabine Sanitary District, and in Louisiana in sanitary supervision of refugee camps following the 1927 flood of the Mississippi river. In July, 1928, he was transferred to the Panama Canal Zone as Chief Quarantine Officer, where he remained five years. During this period he also acted for a time as health officer of Panama City in the Republic of Panama. Upon returning from the Canal Zone he was assigned to duty at the United States Marine Hospital in New Orleans, where he remained until assigned by the Public Health Service to report for duty as Acting Secre-



HARRY N. HARKINS



M. F. HARALSON

tary and Executive Officer of the Colorado State Board of Health, in September, 1935, during the absence of Dr. Roy L. Cleere, Secretary of the Board of Health, who is doing post-graduate study. During this period Dr. Haralson has made an intensive study of Colorado's public health problems, particularly the new activities necessitated by the passage of the federal Social Security law.

The papers by Drs. Bauer and Haralson will be presented at the close of the Friday morning program, September 11, and will be followed by the round-table luncheon of that day, when members of the Society will have an opportunity for full discussion of these important public health relationships, and for questions to be answered by the guests.

The final day, Saturday, September 12, Dr. Henry N. Harkins of Chicago will present "Surgical Shock From Burns, Freezing, and Similar Traumatic Agents" at the close of the morning program, to be followed as in the case of other guest presentations by a round-table luncheon for discussion. In Dr. Harkins the Society will meet a young man who in a comparatively brief medical career has made an enviable reputation in research fields, one who in only seven years has contributed more than thirty important articles to national medical publications, many of them receiving publication before the author had received his Doctor of Medicine degree.

Henry Nelson Harkins, a native of Missoula, Montana, is the son of Dr. William D. Harkins, one of the nation's most distinguished chemists. Dr. Henry Harkins was graduated from the University of Chicago in 1925 with the degree S.B. cum laude. The following year, also from the University of Chicago, he obtained the Master's degree in Anatomy and Chemistry, followed in two years with the Ph.D. in Medicine. His M.D. degree was obtained from Rush Medical College in 1931. While maintaining since that time a position on the surgical resident staff of the University of Chicago Clinics, Dr. Harkins has of Dr. Gordon Holmes, National Hospital, Queen carried on postgraduate studies in the service Square, London, in 1933, under Sir D. P. D. Wilkie, University of Edinburgh, also in 1933. He was the Douglas Smith Fellow in Medicine at the University of Chicago in 1926-1928, and in Surgery in 1934. While studying for his Master's degree he became the Graduate Honor Scholar in Chemistry at the University of Chicago.

New Mexico Appoints Joint Meeting Committee

WE ARE pleased to be able to present the names of the doctors who will represent the New Mexico Medical Society in preparing details of the 1937 joint meeting of the Rocky Mountain states medical societies. In last month's issue of Colorado Medicine New Mexico's official action in joining Colorado toward the 1937 Rocky Mountain Conference was announced. Since then Dr. M. B. Culpepper, President of the New Mexico Society, has appointed the conferring committee for his state.

Dr. H. A. Miller of Clovis will act as chairman of the committee. The other members are Dr. L. B. Cohenour, Albuquerque, who is Secretary-Treasurer of the New Mexico Society, and Dr. C. A. Miller of Las Cruces.

An invitation has gone forward to this committee to meet in the near future with Colorado's committee in preliminary conference on 1937 plans, preparatory to meetings which will be held in the fall after the corresponding committees have been named by the other participating states.

If we are to judge by the more advanced cases of silicosis and tuberculosis, every silicotic nodule is a menace, and every bit of finely powdered silica added to a tuberculous focus increases the tuberculous hazard. —Archives of Pathology.

Dr. Gerald Webb Signally Honored

COLORADO COLLEGE honored Dr. Gerald B. Webb, Past President of the Colorado State Medical Society, and through him the profession of Medicine in this State, by conferring the honorary degree Doctor of Science upon him at the recent commencement exercises. We are informed that this marks the first time that the College has conferred such a degree upon a practicing physician.

Following is the citation read at the time of conferring the honorary degree:

"Mr. President, I have the honor of presenting to you for the honorary degree, Doctor of Science, Gerald Bertram Webb, eminent in his profession of medicine and scholarly in his approach to and understanding of science, literature, and the social problems of his day. Upon his earlier education in England, the land of his birth, where he began the study of medicine in Guy's Hospital, London, and in America and Vienna where his professional studies were continued, he has erected a superstructure of general information and professional skill that has made him an invaluable servant to his fellowman. Not satisfied with the routine practice of his profession, he has inaugurated movements and instituted means for the profound and critical study of physical ills, and in particular in the field of tuberculosis. As a participant, frequently in an official capacity, in national and international medical conferences and as a counselor in personal and family crises, he has won for himself an enduring place in the respect and affections of all who know him, and especially of those whose sufferings have been alleviated by his benevolent ministrations."

MEDICAL SOCIETIES

COLORADO OPHTHALMOLOGICAL SOCIETY

December 21, 1935

DR. J. M. SHIELDS, PRESIDING

Dr. R. W. Danielson presented a case of cyclitic membrane after magnetic removal of an intraocular foreign body. Dr. Danielson also presented a case of persistent membranous conjunctivitis after enucleation.

Dr. J. L. Swigert reported a case of faulty x-ray localization of intraocular foreign body.

Dr. C. E. Walker, Jr., reported a case of a foreign body against the sclera. Dr. Walker also presented a case of iridocyclitis following cataract extraction.

GEORGE H. STINE,
Recorder.

DELTA COUNTY—MONTROSE COUNTY

Dr. W. W. King, President of the Colorado State Medical Society, and Mr. Harvey Sethman, Executive Secretary, were guest speakers before a joint meeting of the Delta and Montrose County Medical Societies held on the regular meeting of the Delta County Society May 29 at the Delta Hotel. Dr. King talked on the "Colorado Medical Foundation," and Mr. Sethman reported on the business sessions of the recent A. M. A. meeting at Kansas City. A dinner at the hotel preceded the meeting, which was very much enjoyed by all present. Mrs. King and Mrs. Sethman and the wives of the local doctors were guests for dinner at the ranch home of Mrs. A. C. McClanahan.

E. R. PHILLIPS,
Secretary.

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EL PASO COUNTY

An unusual and interesting program was given before the El Paso County Medical Society May 6 when the evening session was turned over in its entirety to the interns and residents of the Denver General Hospital. Eight short talks were given by these guests, as follows: Pulmonary Hypertension, by Dr. R. A. Youngman; Emergency Service at Denver General Hospital, by Dr. V. V. Anderson; Amyloid Disease, by Dr. G. A. Filmer; A Case of Congenital Atresia of the Esophagus, by Dr. W. B. Crouch; Cholescystic Disease with Postoperative Liver Shock, by Dr. L. B. Hart; Vitamin C Deficiency, by Dr. H. R. McKeen, Jr.; Diverticulitis, by Dr. F. F. DeMetrovich, and Trichinosis, by Dr. C. J. Stettheimer. The meeting was held at the El Paso Club, following a subscription dinner.

At the June meeting, which was a dinner meeting held June 10 at the Broadmoor Golf Club, three guest speakers from Denver gave the scientific program. Dr. V. G. Jeurink discussed "Common Rectal Problems," Dr. Jack G. Hutton talked on "Twelve Common Skin Diseases," and Dr. T. Leon Howard presented a very interesting series of "Rare Renal Conditions." Each of the papers was illustrated. Mr. Harvey Sethman, Executive Secretary of the State Society, also spoke at the meeting and presented highlights of the program to be given at the State Meeting in Glenwood next September.

HARRY C. BRYAN,
Secretary.

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FREMONT COUNTY

Drs. W. A. Glathar and Harold T. Low of Pueblo were guest speakers at the regular meeting of the Fremont County Medical Society held May 25 in Canon City. Dr. Glathar spoke on "Some Rare Phases of Dermatology," and Dr. Low discussed "Tuberculosis of the Epididymis and of the Prostate Gland."

A. BEE,
Secretary.

* * *

LAKE COUNTY

A special meeting of the Lake County Medical Society was held at Leadville Thursday, May 28, to entertain Dr. Walter W. King, President, and Mr. Harvey Sethman, Executive Secretary of the State Society. Preceding the meeting a dinner was given jointly with the ladies of the Society. At the meeting Dr. King discussed plans for inauguration of the Colorado State Medical Foundation. All but one member of the Society attended, and Dr. Nutting of the Garfield County Society was a guest.

PUEBLO COUNTY

Dr. William A. Campbell, Jr., of Colorado Springs was the program guest before the Pueblo Society on May 19, presenting "An Unusual Case of Carcinoma of the Breast." Dr. Josephine Dunlop of Pueblo led the discussion of this paper.

J. W. WHITE,
Secretary.

NEW TUBERCULOSIS LABORATORY

The Colorado Foundation for Research in Tuberculosis, which has been pursuing its activities for many years in inadequate space provided by Colorado College, has at last secured a modern laboratory in Colorado Springs.

The building was provided by Colorado College and lies west of Cascade Avenue on the Campus, just back of Cutler Hall. By utilizing WPA labor, it was found possible to provide a modern laboratory, air-conditioned, with modern facilities at a moderate cost. The building contains 3,000 square feet of floor space and offers five individual working laboratories in addition to x-ray room, a modern spectographic room, photographic dark room, and animal rooms where guinea pigs, rabbits and monkeys can be kept. There is also a special room for preparation of media, and an office and library for the Laboratory Director.

With the improved facilities at hand, research work should be greatly facilitated, and will certainly be done under more comfortable conditions than it has in the past.

This Foundation is privately financed and has a small endowment, but the research products of the laboratory have been far greater than the financial set-up would lead one to expect.

Obituary

C. Edward Bushell

On May 23, Dr. Bushell of Denver passed away following a protracted illness. He had practiced in Denver for over thirty years.

Dr. Bushell was graduated from Keokuk College of Physicians and Surgeons in Iowa in 1900 and came to Colorado in 1904. He was sixty years of age.

Charles Trueblood

Dr. Charles Trueblood, for 32 years a leading physician of Monte Vista, passed away on May 19 at Mercy Hospital in Denver from heart disease complicating asthma.

Born in Chesterfield, Indiana, in 1873, he had received his entire schooling in that state, being graduated from the state medical school and interning in the City Hospital in Indianapolis. He took frequent postgraduate work in New York City during several years of practice in Indiana. Since his removal to Monte Vista in 1904, he had been surgeon for the D. & R. G. Railroad and prominent in political, civic, and financial enterprises of his community. He was a Mason, Rotarian, and an elder of the Presbyterian Church. The organized medical profession has lost, in him, one of its most able and loyal workers.

Survivors include his widow; his daughter, Mary Elizabeth; and a son, William Dale.

WOMAN'S AUXILIARY

DENVER COUNTY

The annual luncheon of the Woman's Auxiliary to the Denver County Medical Society was held on Monday, May 25, at the Cherry Hills Country Club. Mrs. J. E. A. Connell was chairman of arrangements. Being the last meeting of the year, various officers and chairmen read their reports, and Mrs. Douglas W. Macomber, retiring president, gave her closing report.

The newly elected officers for the coming year are Mrs. Claude Cooper, president; Mrs. H. J. Freeland, president-elect; Mrs. Virgil Sells, first vice president; Mrs. Daniel Higbee, second vice president; Mrs. Leo Davis, recording secretary; Mrs. George K. Thomas, corresponding secretary; Mrs. Gerald Frumess, treasurer; Mrs. J. F. Prinzing, auditor, and Mrs. Lorenz Frank, parliamentarian.

Following the business meeting vocal selections were given by Mrs. Morris Krohn, with Mrs. Frank B. Stephenson at the piano.

MRS. CLEVELAND WOODCOCK.

A series of three subscription card parties is being given the fourth Tuesday of June, July, and August, to raise funds for the Philanthropic Fund. The parties will be held at the home of Mrs. T. Mitchell Burns, 2433 East Seventh Avenue, Denver. A committee of twelve will assist Mrs. Burns each time, and share expense of the very light refreshments so that all the financial returns may be given to the Fund.

ECONOMICS

We do not propose to provide here a long dissertation on Medical Economics. We do desire to say that there has been so much foolishness published in the past about the altruism of medicine, about the matter of "money being always and forever a secondary thing," about what a privilege it is for the doctor to go about relieving the suffering of humanity, with the utmost disregard to any money reward, that the majority of mankind eagerly accepts such nonsensical idealism, apparently without recalling that doctors are not the recipients of any perceptible altruism. Far from it! They pay for what they get!

Is there any reason why the public should not pay for a defense of its most valuable possession, its health?

There is, beyond all controversy, such a thing as Medical Economics, and we believe that there should be some instruction therein of a practical nature provided in medical schools, with less of emphasis on the visionary. It is necessary for doctors to have a good understanding of economics. There is nothing unethical about it. It is also very often the case that the most respected and loved doctor in a community is the one who is known as "a good collector." We recommend a thorough study of his economic procedure.—Sedgwick County Bulletin.

COLORADO STATE MEDICAL SOCIETY

Officers, 1935-1936

President: Walter W. King, Denver.

President-elect: A. J. Markley, Denver.

Vice Presidents: First, L. W. Bortree, Colorado Springs; Second, Herman C. Graves, Grand Junction; Third, A. C. Sudan, Kremmling; Fourth, C. W. Bixler, Erie.

Constitutional Sec'y.: J. S. Bouslog, Denver (1936).
Treasurer: J. B. Hartwell, Colorado Springs (1938).
(The above officers constitute the Board of Trustees of the Society.)

Executive Secretary: Mr. Harvey T. Sethman, 537 Republic Bldg., Denver; telephone KEystone 0870.

Delegates to American Medical Association: John W. Amesse, Denver (1936); Alternate, John B. Crouch, Colorado Springs (1936); Harold T. Low, Pueblo (1937); Alternate, John Andrew, Longmont (1937).

Councillors:		**Term Expires**
District No. 1	F. W. Lockwood, Fort Morgan	1936
District No. 2	Ella A. Mead, Greeley	1936
District No. 3	George P. Lingenfelter, Denver, Chairman	1936
District No. 4	C. T. Knuckey, Lamar	1938
District No. 5	W. L. Newburn, Trinidad	1938
District No. 6	C. Rex Fuller, Salida	1938
District No. 7	A. L. Burnett, Durango	1937
District No. 8	Lee Bast, Delta	1937
District No. 9	W. W. Crook, Glenwood Springs	1937

Standing Committees, 1935-1936

Credentials: J. S. Bouslog, Denver, Chairman; O. E. Benell, Greeley; O. B. Rensch, Durango.

Scientific Work: Philip Hillkowitz, Denver, Chairman; Thad P. Sears, Denver; Atha Thomas, Denver.

Arrangements: W. W. Crook, Glenwood Springs, Chairman; R. B. Porter, Glenwood Springs; Warren H. Twining, Aspen; F. A. Humphrey, Fort Collins.

Public Policy: William H. Halley, Denver, Chairman; Gerrit Heusinkveld, Denver, Vice Chairman; Hamilton I. Barnard, Denver; Maurice Katzman, Denver; W. T. Brinton, Denver; C. H. Boissevain, Colorado Springs; J. S. Norman, Pueblo; Charles H. Platz, Fort Collins; George H. Curfman, Salida; W. W. King, Denver, ex-officio; J. S. Bouslog, Denver, ex-officio; Mr. H. T. Sethman, Denver, ex-officio.

Publication: C. F. Kemper, Denver (1936), Chairman; C. S. Bluemel, Denver (1937; Osgoode S. Philpott, Denver (1938).

Medical Defense: Frank B. Stephenson, Denver (1936) Chairman; Edward Delehanty, Denver (1937); T. E. Beyer, Denver (1938).

Medical Education and Hospitals: John Andrew, Longmont, Chairman; G. E. Calonge, La Junta; John G. Ryan, Denver.

Library and Medical Literature: Gerald B. Webb, Colorado Springs, Chairman; Frank R. Spencer, Boulder; John W. Amesse, Denver.

Cooperation With Allied Professions: John R. Evans, Denver, Chairman; Herbert A. Black, Pueblo; B. B. Jaffa, Denver.

Medical Economics: W. Walter Wasson, Denver, Chairman; Jack G. Hutton, Denver; Philip Hillkowitz, Denver.

Necrology: A. C. McClanahan, Delta, Chairman; Jefferson C. W. Davis, Denver; Charles B. Dyde, Greeley.

Special Committees, 1935-1936

Postgraduate Clinics: W. T. H. Baker, Pueblo, Chairman; John M. Foster, Jr., Denver; John B. Davis, Denver; G. M. Blickensderfer, Denver; L. N. Myers, Cheyenne Wells.

Cancer Education: Lyman W. Mason, Denver (1936); C. T. Ryder, Colorado Springs (1936); J. B. Hartwell, Colorado Springs (1936); George H. Curfman, Salida (1937); George A. Unfug, Pueblo (1937); J. E. Naugle, Sterling (1937); Carl W. Maynard, Pueblo (1938); Harry S. Finney, Denver (1938); Sanford Withers, Denver (1938).

Tuberculosis Education: Charles O. Giese, Colorado Springs, Chairman; W. N. Beggs, Denver; H. J. Corper, Denver.

Advisory to the School of Medicine: N. A. Madler, Greeley, Chairman; W. W. Haggart, Denver; R. W. Hoyt, Denver; Philip W. Whiteley, Denver; W. B. Hardesty, Berthoud.

Advisory to the Board of Health: John W. Amesse, Denver, Chairman; Ralph S. Johnston, La Junta; Lawrence D. Dickey, Fort Collins; Ralph H. Verploeg, Denver; D. A. Vanderhoof, Colorado Springs.

Advisory to the F.E.R.A.: F. Julian Maier, Denver, Chairman; F. A. Humphrey, Fort Collins; W. A. Campbell, Jr, Colorado Springs.

Military Affairs: G. P. Lingenfelter, Denver, Chairman; Nolie Mumey, Denver; Duane Hartshorn, Fort Collins.

Gratuitous Medical Services: Lorenz W. Frank Denver, Chairman; R. W. Arndt, Denver, Vice Chairman; T. D. Cunningham, Denver; F. O. Kettlekamp, Colorado Springs; Royal H. Finney, Pueblo.

Rocky Mountain Joint Session, 1937: G. P. Lingenfelter, Denver, Chairman; Nolie Mumey, Denver; Claude Cooper, Denver; Harold T. Low, Pueblo; Lawrence L. Hick, Delta.

Delegates to Colorado Council of State-wide Health Agencies: W. H. Halley, Denver; Harry A. Alexander, Boulder.

Constituent Societies
Meeting Dates; Secretaries

Adams County—Quarterly, date set by president and secretary; secretary, J. C. Stucki, Brighton.

Arapahoe County—Last Monday of each month; secretary, N. Paul Isbell, Englewood.

Boulder County—Second Thursday of each month; secretary, Warren M. Gilbert, Boulder.

Chaffee County—First Tuesday of each month; secretary, L. E. Thompson, Salida.

Clear Creek Valley—Second Tuesday of each quarter; secretary, Edward P. Fee, Arvada.

Crowley County—Second Wednesday of each month; secretary, W. M. Desmond, Ordway.

Delta County—Last Friday of each month; secretary, E. R. Phillips, Delta.

Denver County—First and third Tuesday of each month; secretary, F. Julian Maier, Denver.

Eastern Colorado—Quarterly, first Monday in December, March, June and September; secretary, W. L. McBride, Seibert.

El Paso County—Second Wednesday of each month, secretary, Harry C. Bryan, Colorado Springs.

Fremont County—Fourth Monday of each month; secretary, Archie Bee, Canon City.

Garfield County—Last Thursday of each month; secretary. R. B. Porter, Glenwood Springs.

Huerfano County—Third Thursday of each month; secretary, James M. Lamme, Walsenburg.

Lake County—First Thursday of each month; secretary, J. C. Strong, Leadville.

Larimer County—First Wednesday of each month; secretary, Thad C. Brown, Fort Collins.

Las Animas County—First Friday of each month; secretary, P. W. Carmichael, Trinidad.

Mesa County—Third Tuesday of each month; secretary, F. J. McDonough, Grand Junction.

Montrose County—First Thursday of each month; secretary, C. E. Lockwood, Montrose.

Morgan County—Last Monday of each quarter; secretary, Paul E. Woodward, Fort Morgan.

Northeast Colorado—Second Thursday in each month; secretary, E. P. Hummel, Sterling.

Northwestern Colorado—Second Thursday of each month; secretary, Duane Turner, Steamboat Springs.

Otero County—Second Friday of each month; secretary, C. E. Morse, La Junta.

Prowers County—First Tuesday of each quarter; secretary, C. T. Knuckey, Lamar.

Pueblo County—First and Third Tuesday of each month; secretary, Jesse W. White, Pueblo.

San Juan—Second Saturday, January and alternate months; secretary, Charles L. Mason, Durango.

San Luis Valley—Fifteenth of each month; secretary, James R. Hurley, Alamosa.

Washington and Yuma Counties—First Tuesday of each quarter; secretary, M. L. Crawford, Akron.

Weld County—First Monday of each month; secretary, T. C. Wilmoth, Greeley.

Wyoming Section

JULY
1936

The Cody Meeting

It is with deep regret that we are compelled to go to press before our program for the 1936 meeting at Cody is complete. We had expected to publish the program in this issue, but delays over which we had no control prevent its publication.

That an outstanding number of excellent papers are promised, and that interesting entertainment plans are complete is all that we can say at present. Rest assured that every member who attends will be more than pleased with the meeting.

Make your plans to arrive in Cody, Sunday, August 23, and so enjoy the get-together smoker that evening. Above all things plan to attend and then carry out your plans. We extend a cordial invitation to members of our sister state societies in the Rocky Mountain region to attend this meeting. All hotel reservations should be made now through Dr. Lewellen, as suggested below. All those wishing to participate in the golf tournament should register with Dr. V. R. Dacken of Cody.

E. W.

Get Your Reservations for The Cody Meeting Now

It will be well for those planning to attend the Cody meeting to make their reservations for hotel accommodations now. During the summer months the hotels are almost always full and since there is to be a Rotarian Convention in Yellowstone just prior to the dates set for our meeting those attending that convention will be returning through Cody about that time.

Dr. J. D. Lewellen is in charge of reservations. Please write at once and let him know your wishes in the matter. We can not stress the importance of this too greatly: Dr. J. D. Lewellen, Cody, Wyoming.

Hotels and prices are listed:

THE IRMA HOTEL (Headquarters)—

Single without bath	$2.00
Double without bath	3.00
Single with bath	3.00
Twin beds with bath	4.00
For three persons with bath	6.00

THE CHAMPERLAIN HOTEL—

Single without bath	1.50
Single with bath	2.50
Double with bath	3.50
For three persons with bath	4.50

THE BURLINGTON INN—

Single without bath	2.50
Double without bath	4.00
Single with connecting bath	3.50
Double with connecting bath	5.00
Single with private bath	4.50
Double with private bath	6.00

A RARE CASE

Syphilitic Dies of Rocky Mountain Spotted Fever

Dr. E. L. Jewell of Shoshoni, in a paper read at the Casper Meeting of the Wyoming State Medical Society, held July 17, 1934, made the following statement: "An interesting sidelight of my experience in the blood study of Rocky Mountain Spotted Fever is that I have never seen a case that proved fatal or even became seriously ill who had a positive Wassermann also."

In view of the large and long experience of Dr. Jewell, who thirty-two years ago located in one of the hotbeds of Rocky Mountain spotted fever, this statement must be very important. Dr. Jewell was a keen observer and no doubt saw and treated more cases of spotted fever than any individual physician.

The following case is put on record to show that death does occasionally occur where the two diseases are combined. We are indebted to the Veterans' Administration for the notes and records in this case:

"Family history, negative; personal history, negative; normal early life; slight amount of education; occupation, laborer and sheepherder. Present illness four days prior to admission to hospital when patient had headache, backache, became progressively worse and admitted to the

hospital with diagnosis of Rocky Mountain spotted fever.

"Physical Examination: Well nourished and well developed white male, 46 years of age. Height and weight cannot be taken at this time because of patient's acute illness. Blue eyes; brown hair. Head, negative with exception of markedly unhygienic condition of mouth; all upper teeth, missing. Lower teeth are discolored, covered with calculus and show the lack of care demonstrable in the entire mouth. Face is flushed and there are a few small discrete macular eruptions on the face and neck. Externally chest is covered very profusely with small discrete macular eruptions some of which are slightly raised. These lesions are extremely prevalent particularly in the dorsal aspect of the left shoulder where they almost coalesce and where there is a small amount of purpura. Lungs, negative, although respiration is rapid, 28. Heart: Systolic murmur at apex, but no cardiac enlargement. No thrills or arrhythmias present. Blood pressure, 90/65. Pulse, rapid—at present time 120 per minute. No sclerosis of arteries noted. Abdomen: Somewhat distended. Liver is enlarged three fingers' breadth below the right costal margin. Spleen is enlarged, palpable and tender. The surface of the abdomen is thickly covered with the same small discrete macular eruption that is present on the chest. These lesions are also present in the lumbar region and to a lesser extent on all extremities. Genito-urinary system, normal. Bones, joints, and muscles, normal.

"Neurological Examination: Sensory tests not made because of acute illness of patient. No motor changes noted. No incoordination or tremors, but abdominal reflexes were not obtained and the cremasteric on the left is more prominent than the one on the right. This is also true of the knee jerks. The right knee jerk could scarcely be obtained at all which the left is within normal limits.

"Mental Examination: Patient is obviously of low mental calibre, but not sufficiently to warrant a diagnosis of mental deficiency. He had had practically no education. When his temperature is fairly low his answers to questions are rational, but at other times he is irrational, has flights of fancy, and is partially disoriented. These mental symptoms are believed entirely due to the fever, although patient has a positive Wassermann and other indications of lues.

"Laboratory Examinations: Urine, straw color; acid reaction; specific gravity, 1.015; albumin, 1 plus; sugar, negative; few WBC; no RBC; few fine and brown granular casts. Few squamous epithelial cells; few calcium oxalate crystals. Blood count: total erythrocyte count, 4,376,000; total leukocyte count, 6,200. Differential leukocyte count, polymorphonuclears, 87 per cent; lymphocytes, 11; monocytes, 2; hemoglobin, 85 per cent; color index, 0.98 per cent. Blood Wassermann, 100 per cent fixation; Kahn, 4 plus."

The foregoing notes seem conclusive proof that the patient died of Rocky Mountain spotted fever with a very definite diagnosis of associated syphilis. Patient succumbed twelve days from the onset of the disease. E. W.

Insurance Warning

Insurance Commissioner A. J. Ham of Wyoming has sent to newspapers the following warning against unauthorized insurance companies, which solicit business by mail or radio:

"Licensed insurance companies, who have made this assignment possible for you, paid the state of Wyoming more than $150,000 in taxes and fees for the privilege of doing business in the state during the past year. They operate under the jurisdiction of this department; they comply with our laws; submit all policies for approval and pay their claims promptly and justly.

"Wyoming, like other states, is flooded with insurance 'rackets' with policies so limited that chances for benefits are very remote. They do most of their soliciting by mail or radio and as they are not licensed by this department we are helpless when called upon to force them to live up to their contracts.

"The Wyoming Insurance Department is for the protection of the citizens of the state and we earnestly request that when buying insurance, purchasers should insist upon the solicitor displaying his license, or if in doubt get in touch with this department.

"As the department appropriation does not allow for proper warning to our citizens, by publishing this information you will be protecting your subscribers, showing appreciation to the companies supplying this patronage and also gain the sincere thanks of the Insurance Department."

Well infants whose care was strictly supervised during the first year of life were in no way benefited by the addition of extra vitamin B to the diet.—Journal of Pediatrics.

VALUE OF PROCTOLOGY IN GENERAL MEDICINE*

R. J. BOESEL, M.D.
CHEYENNE

Few doctors have more than the most casual interest in proctology and the field is slighted, often to the detriment of both the patient and the doctor. The majority of pathologic conditions about the rectum respond well to treatment, and there is nothing very complicated about them, but because of our neglect the field has been exploited by the advertising physician. Many surgeons are capable of performing satisfactory operations on the rectum, and many internists are proficient in the treatment of chronic ulcerative colitis and amebic dysentery, but there are few of either who are proficient in the use of the proctoscope. About 20 per cent of patients with carcinoma of the rectum have been operated for hemorrhoids, or treated symptomatically for intestinal irregularity without a diagnosis having been made. Ninety per cent of carcinomas of the rectum can be palpated by digital examination.

Any complaint which indicates departure from normal intestinal function is sufficient reason for rectal examination. These symptoms are persistent pain in the region of the rectum or anus, pain associated with bowel movement, anal discharge, which may be bloody, mucous or purulent, constipation, diarrhea, bleeding, itching, burning, protrusion, or irregularities about the anal margin. Many rectal diseases manifest themselves by referred symptoms, such as backache, sciatica, arthralgia, anemia, frequency or urgency of urination, restlessness, loss of weight, and nervousness.

The purpose of this paper is to give the technic used in making proctoscopic examination, to call attention to some of the most common pathologic conditions, and to describe the treatment.

There should be a definite order in procedure in examining a patient with an intestinal disorder. A proctoscopic examination is made twenty-four hours before roentgenograms of the colon except in diarrhea, when examination of the stools is made first. Ordinarily a proctoscopic examination can be made satisfactorily within an hour after a normal bowel movement. It is often necessary, however, to give a warm water enema until the water returns clear an hour before the examination. Usually no anesthetic is required, but if there is extreme tenderness associated with spasm of the anal sphincter, and ulceration, swabbing with 10 per cent cocain solution may relieve the spasm. If this produces sufficient anesthesia, 3 grains of sodium amytal may be given two hours before examination, and 30 c.c. of 2 per cent novocain injected into the sacral hiatus. Anesthesia should be complete in about ten minutes. Occasionally it may be necessary to inject 2 c.c. more into each of the second, third, and fourth sacral foramina. Sacral or parasacral anesthesia is satisfactory in all rectal operations, as it produces relaxation of the anal sphincter.

The patient is placed upon a proctoscopic table if one is available. If not, the knee chest position is used, or the patient is placed in an inverted position by lowering him over the edge of the bed with his elbows resting on pillows on the floor. First the tissues about the anal margin are inspected, then with a finger cot and a water soluble jelly a digital examination is made. Next the proctoscope with the obturator in place is inserted into the anal aperture in line with the anal canal until it passes the internal sphincter. This is best done by following the anterior wall of the rectum. The obturator is then removed, and the remainder of the examination is made under the direction of the eye. It is generally not necessary to use the inflation bulb, but if used, the head should be removed as soon as possible to allow the air to escape. The examination is made with less discomfort to the patient and more satisfaction to the doctor if the patient is asked not to strain but to breathe easily through the mouth. Most of the examination is made by removing the proctoscope. The proctoscope al-

*Read before Wyoming State Medical Society, August 13, 1935, at Lander.

lows us to examine twelve inches of the large bowel.

Congenital Anomalies: The rectum and anal canal develop from different embryonic layers, the rectum from the mesoblast and hypoblast, and the anal canal from the epiblast, so that the rectum and anus are from three different sources, the upper rectum from the hind gut, the lower rectum from the cloaca, and the anal canal from the proctodeum.

In the different congenital anomalies that may involve this region, one of three faults is apt to have occurred: The proctodeum may not have joined properly with the rectum. The post-allantois portion of the rectum may be absent or abnormal openings may persist between the rectum and the genito-urinary tract. There may be complete absence of the anus or congenital narrowing of the anal canal. The little finger of an adult should enter the anal canal of an infant without difficulty. The post-allantois portion of the rectum may be lacking with or without a normal anus. When this occurs, an opening is usually found leading into the bladder or urethra of the male, or into the vagina or uterus of the female. These openings are generally inadequate for normal bowel function. The symptoms in these congenital anomalies are obstipation, intestinal obstruction, or defecation through abnormal openings.

Injuries: The essential thing about wounds of the rectum is the integrity of the peritoneum. When the latter is opened, immediate exploration of the abdominal cavity is essential. Bladder injuries increase the danger of infection. Delayed hemorrhage and infection are grave complications. The mucosa may be injured by hard stools, fecal impactions, foreign bodies, improper use of enema tips, hot water enemas, enteroliths, etc.

Prolapse: By prolapse is meant the descent of one portion of the rectal canal into a lower part. Prolapsus ani and prolapsus recti are used to describe different degrees. Rectal prolapse can be diagnosed by the annular disposition of the mucosal folds of the tumor. Manual reduction is usually possible; if not, the excess tissue should be removed down to the muscularis and an anastamosis done. Recurrences require similar treatment.

Hemorrhoids: Hemorrhoids may be classified into external and internal. Each type may become thrombosed, edematous, ulcerated, strangulated, necrotic, or gangrenous. External hemorrhoids involve tributaries of the inferior hemorrhoidal veins beneath the skin around the anal margin. Thrombosed external hemorrhoids appear as small tumors beneath the skin. Sometimes they are bluish, and sometimes the skin over them does not change color. They vary from 3 mm. to 3 cm. in diameter. They develop suddenly, usually following straining at stool from diarrhea or constipation and the onset is attended with severe pain which generally subsides within two or three days. Sometimes they rupture with immediate cessation of pain. Hot wet packs or hot sitz baths generally relieve the pain and hasten absorption. They may be excised with an eliptical incision, the clot expressed, and the skin edges approximated with sutures. The incision should extend around the tumor from the anal canal outward. External hemorrhoids may become edematous as the result of trauma or irritation. Ulceration, sloughing, and strangulation may develop. Pain and discomfort follow. Acute inflammation or thrombosis of external hemorrhoids results in healing with scar tissue formation leaving a deformity around the anal margin composed of cutaneous tissue with a connective tissue stroma.

The mixed types of hemorrhoids consist of the internal and external varieties. They are covered by both mucous membrane and mucocutaneous tissue and are composed of varicosities which arise from both the internal and external veins. The upper portion is dark red, and the lower is pink. Capillary hemorrhoids occur as small tumors which are "raspberry-like" in appearance, and which lie close beneath the mucous membrane. They rupture easily and bleed freely.

Internal hemorrhoids arise from the middle and superior hemorrhoidal veins and

extend from the pectinate line upwards for 3 or 4 cm. They are always covered with mucous membrane. They may protrude or prolapse. They may become thrombosed but cause little pain because of the absence of sensory nerve endings above the dentate margin.

Hemorrhoids may be treated successfully surgically or by the injection method. When found together with fissure, fistulae, enlarged papillae, or infected crypts, or when large external or thrombosed hemorrhoids exist they should be treated surgically.

Uncomplicated internal hemorrhoids of moderate degree with only mild protrusion respond best to non-surgical treatment. The latter may be an office procedure. The patient is given a sedative, such as sodium amytal, two hours before the treatment and is asked to take a tap water enema one-half hour before. The anoscope is inserted and the internal hemorrhoidal tissue posteriorly brought into view. Five per cent quinine and urea hydrochloride solution with 2 per cent procain is injected about 1 cm. beneath the surface in the middle of the hemorrhoidal tissue with a special needle and syringe until swelling is visible. The mucosa should not become tight and glistening. The left half of the anal canal is injected, using 2 to 4 c.c. of the solution. The patient is instructed to take hot sitz baths for discomfort and to report daily to the office, at which time an inspection is made with the anoscope and the anal canal irrigated with warm witch hazel. After three to five days the right side is similarly injected. The treatment is ambulatory and very satisfactory. Occasionally there is a recurrence which may be treated in the same manner.

Surgery: A sedative is given two hours before operation. A warm tap water enema is given until the water returns clear. Caudal or parasacral anesthesia is used. The patient is prone on the table with the kidney elevator underneath the hips. The anoscope is inserted, the obturator removed, and gauze inserted in a large roll. The anoscope is removed and the gauze left in to be withdrawn slowly to show the size and position of the pathologic conditions present. The anus is now carefully and slowly dilated to about 4 cm. The mass of internal hemorrhoidal tissue is grasped with a Pennington clamp, and with a curved scissors an incision is made external to the dentate margin, dissecting out the vessels to the external sphincter and extending through the dentate margin. A hemorrhoidal clamp is next applied at sufficient depth to remove all hemorrhoidal tissue which is cut away distal to the clamp. With plain catgut one ligature is tied above the clamp and two around it, the clamp is removed and the sutures drawn tight and tied. It is not necessary to suture the skin, but the line of the dentate margin should be kept intact. The remainder of the hemorrhoidal tissue should be removed and a gauze and rubber drain is inserted.

The patient is kept on his side for twenty-four hours and hot wet dressings of witch hazel are applied at from 110 to 130 degrees F. for four to six hours and repeated when necessary for pain. Morphin sulphate is also given if necessary. A soft diet may be taken the evening of the first day, and a regular diet thereafter. Catheterization should be done if necessary. Sitz baths are given daily after the second day. On the morning of the third day the drain is removed. The anal canal is irrigated with witch hazel and an antiseptic is applied. On the evening of the third day a laxative is given. After a bowel movement the anal canal is cleansed. The patient is allowed up after two or three days and dismissed from the hospital between the fourth and sixth day. A small piece of clean cotton is kept in the anal canal and replaced every two or three hours. The wound is dressed and irrigated daily until healed.

Fistula in ano: Fistulas begin as infected crypts which extend into and through the wall of the anal canal, generally between the external and internal sphincter, then into the ischiorectal space forming an abscess. These abscesses should be drained with an incision from the lateral limits of the abscess to the anus, and if possible directly through the crypt originally involved. The overhanging edges should be removed, allowing the wound to granulate in from beneath. The wound should be dressed

daily until healed. If these abscesses are opened without opening the original crypt, a fistula will result with its tract extending from this crypt to a sinus usually where the abscess had been opened. Such a sinus may heal, but periodically it will open and discharge pus. It can usually be palpated as an indurated cord extending from the external opening to the crypt where it originated. When such sinuses are located anterior to a line drawn transversely through the anal canal, the internal opening is generally adjacent and the tract straight; when posterior to this line, the tract is generally curved with its convexity posteriorly and the internal opening in the midline behind.

Fistulas should be treated surgically. The internal opening should be located by probing the crypt suspected with a blunt probe, the probe should be passed through the tract connecting the external and internal openings, and this tunnel converted into a groove by opening the roof its entire length. The overhanging edges should be removed and the wound allowed to granulate in from the sides over a flat surface. Daily dressings and inspection are essential.

Pilonidal sinus: These are congenital. One or more sinuses in the midline posteriorly may indicate a pilonidal sinus. These are lined with skin, and often have one or more hairs protruding from the openings. They have no connection with the rectum or anal canal. The treatment is surgical. The entire tract should be widely removed, and if attached to the periosteum of the sacrum or coccyx, the periosteum should be removed. The wound should heal from the sides over a flat surface.

Fissure: A fissure is a narrow ulcer beginning at the anal margin and extending upwards a short distance into the anal canal. It is generally located at the posterior commissure. The characteristic symptom is pain which is all out of proportion to the size of the lesion. The pain is associated with bowel movement. On inspection a linear ulcer is seen occupying a narrow surface of the anal mucosa. Edema of an adjoining papilla often causes it to enlarge, and this enlarged papilla is called a "sentinel pile."

The treatment of fissures is surgical. The ulcer is excised together with an oval area of skin external to it for about 3 or 4 cm. and of a depth to the external sphincter. The mucous membrane should be restored to the line of the dentate margin. The wound should granulate in from the sides over a flat surface leaving a scar which will not become inflamed when traumatized.

Pruritis ani: This is a symptom characterized by itching. The cause usually is not known. There is an acute form which seems to be self-limited. In the chronic form the onset is insidious and there are often periods of remission. The condition is progressive and becomes more severe as skin changes take place. Temporary relief may be obtained by keeping the parts dry with cotton changed every two hours, application of 2 per cent aqueous mercurochrome, anesthetic powder dusted over the parts, bismuth formic iodide, anesthetic ointments, and hot wet soda packs. After all methods of treatment ordinarily used have failed, and no relief is obtainable, subcutaneous injections of 40 per cent ethyl alcohol of the area involved gives complete relief in a large percentage of cases. Twenty to 30 c.c. of alcohol is generally sufficient. It should be injected superficial to the external sphincter. The treatment is very drastic and in about half the cases sloughing takes place. The wounds require daily dressing until healed.

Chancroids may occur around the perianal region. Ulceration is characteristic. Ducrey's bacilli are present in the smears. The treatment is the same as for chancroids elsewhere.

Amebic ulceration of the colon: In amebic ulceration of the colon, hemorrhagic spots (ulcers) are seen about 5 mm. in diameter dotted about in the mucous membrane. These ulcers are covered with a gray exudate which when removed leaves a depression with overhanging edges. The mucous membrane between the ulcers is normal in appearance. Smears taken directly from the ulcers show the presence of ameba histolytica. Treatment is medical, using emetine hydrochloride, patren, treparsol, stovarsol, or any of the arsenical preparations. The most common symptom is diarrhea, but this

may not be present. Often there is tenesmus with tenderness over the colon. Liver abscess may be a complication.

Tuberculosis: Tuberculosis around the anal margin is practically always secondary, and is characterized by ulceration. Tuberculosis in the rectum generally causes ulceration of the mucous membrane which is characterized by variations in size and shape of the lesions, overhanging edges, and the lack of induration in the base and edges of the lesions.

Chronic ulcerative colitis: In this condition the bowel wall involved is red and granular, and bleeds readily when swabbed lightly with a cotton applicator. Bargen's bacillis may be isolated from swabs taken directly from the lesions. The symptoms are generally diarrhea, weight loss, tenesmus, abdominal pains and tenderness over the colon. There may be periods of remission. The condition is chronic.

Syphilis: Primary and secondary lesions are rare. Tertiary lesions may be present in the anal canal causing stricture. Antiluetic treatment is of little benefit and it is possible that these lesions may be from other causes in a luetic patient.

Polypi are outgrowths from the rectal mucosa. They are single or multiple. They are known to undergo malignant changes, especially when multiple. If the colon is diffusely studded with them, resection is indicated. If they are single and accessible, they should be fulgurated.

Diverticulosis: The appendices epiploaca of the sigmoid and colon may have openings connecting them with the lumen of the bowel. These openings are occasionally seen through the proctoscope. Inflammatory reactions in these structures cause diverticulitis. The treatment is usually medical.

Stricture: By stricture of the rectum is meant any abnormal narrowing of the lumen of the anorectal portion of the intestinal tract. Strictures may be annular, tubular, partial or complete. They may be congenital, traumatic, malignant, leutic, tuberculous, inflammatory, or spasmodic. Amebic ulceration and chronic ulcerative colitis may cause stricture. The symptoms are constipation alternating with diarrhea, a discharge of mucus or pus with occasional bleeding. Later symptoms of obstruction may develop. A biopsy should always be taken to determine the nature of the tissue causing the obstruction.

Carcinoma of the rectum comprises from 3 to 7 per cent of all carcinomas. About 50 per cent of them are operable when the diagnosis is made. Adenocarcinoma begins as an elevated mass growing from the side of the rectum. It ultimately forms a large elevation on a broad base and produces obstruction. Fibrocarcinoma generally appears as an annular stricture. Medullary carcinoma outgrows its blood supply early, causing degeneration and sloughing. Cancer in the anal canal is epithelial and either squamous or basal cell. The former begins as a warty growth, later becoming ulcerated and infiltrating. Basal cell epithelioma occur as rodent ulcers. They grow slowly and rarely metastasize. The symptoms are pain and hemorrhage, diarrhea, constipation and discharge. There is usually difficulty in evaculating. Emaciation, weakness, anemia, ascites, palpable lymph nodes in the groin, and weight loss are late symptoms. In any suspected malignancy a biopsy should always be taken. The treatment of malignant lesions here is surgical.

Massive doses of pancreas extract will cure psoriasis.—Urologic and Cutaneous Review.

In some children, the most trivial infection is likely to cause a reversion to the infantile blood picture.—Archives of Pediatrics.

An attempt to prove from roentgenograms alone whether disability does or does not exist is an extremely pernicious practice. Not all of these cases with negative x-rays are malingerers.—Illinois Medical Journal.

[In the newborn, gelatin hydrating solution] does not influence the bleeding or clotting times; neither does it prevent dehydration fever. It does not appear to be a physiologic or safe therapeutic procedure.—The Journal of Pediatrics.

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WHAT THE DIETITIAN EXPECTS OF THE DOCTOR

FERN STONE, R.N.*
DENVER

The demands made upon the modern dietitian are increasing since the average hospital staff is quick to see the possibilities of using her knowledge and training to advantage. With the dividing of a dietitian's time between these ever-increasing activities, less time is left to devote to the chief reason for her being—that of supplying a tasty and palatable as well as an adequate diet to the patient. The physician may well ask how more consideration may be given his patient's food. This can be easily answered in the following statement—by showing a greater interest in the dietary department.

Every dietitian appreciates a diet order containing all the basic facts. An order requesting an obesity diet is not sufficient. The requisition should include the number of calories desired, the age of the patient, his present weight, protein requirement and whether or not a fluid or salt restriction is advisable. The time she spends ascertaining these facts, may then be profitably spent with the patient learning his food likes and dislikes, in general, gaining his confidence. The sooner the dietitian is able to contact the patient, the less time there is for a misunderstanding regarding the diet.

Frequent consultation with the doctor in the diet kitchen or on the floor will undoubtedly lead to a more effective method of meeting the patient's nutritional needs. The diet as an individual problem may be discussed at his time. In computing diet prescriptions, physicians often do not consider the proportions of nutrients in the kind of foods which must necessarily be given as vehicles for the calories and other nutrients designated in his diet. In using the high carbohydrate diet for diabetics, frequently the protein and fat are ordered at the same level; occasionally the fat is lower than the protein recommended. Many times the patient complains about this diet. There is not enough cream for his coffee and cereal or there is not enough butter for his bread and vegetables. The most clever dietitian can do very little to rectify this complaint without some change in the diet order, since nature's percentage of fat in protein-bearing foods is relatively constant.

The dietitian wants and expects the doctor to visit his patient at meal time so that he may judge the type of food his patient is receiving. However, the doctor who habitually makes his calls at meal time and it is necessary for the food to be held in a warmer or reheated could naturally expect complaints. All people engaged in the preparation of food know that there is one time when it is ideally cooked and must be served then to be at its best.

Lack of flexibility in the dietary department is a frequent criticism of the medical staff. I wish to explain why this condition apparently exists. When the doctor requests some special food at ten in the morning for a patient who needs pampering and coaxing, the dietitian may not be in her department to receive the order. She is probably in class or calling on patients, and when she returns to the kitchen, there is not sufficient time for ordering, delivering, and preparing a chosen article of food so that it may appear on the noon tray. Then, too, in many dietary departments it is impossible to cater to the varied food demands, since it would be financially unsound to stock many perishables as tomatoes and asparagus out of season.

Just as it is impossible to fill a special order one-half hour after it is received, neither can a weighed diet be changed un-

*Dietition, Denver General Hospital.

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less sufficient time is allowed for recalculation. The same thing holds true with a going-home diet. So often the patient is discharged, and everyone seems to forget that the dietary department has its part to play.

As time goes on, and the dietary treatment becomes more closely associated with medical therapeutics, each will understand the other's problems and a better feeling of good-will will exist, which in turn will lead to a more satisfactory food service.

Estimates Hospitals Have Lost 35,000 Employees in Depression

Faced with a demand for services greater than at any time in their history, America's hospitals, because of their financial condition, are being forced to function with a personnel reduced by 35,000, according to John Glossinger, vice president of the Kny-Scheerer Corporation, famed surgical instrument house of Long Island City, New York.

Mr. Glossinger bases his figure on a study made by the government of 6,112,529 cases on relief which revealed that in this number there were 20,000 who previously were hospital employees. Since the total number of U. S. unemployed is variously estimated as between ten and twelve million people, he said he believed that his 35,000 figure is conservatively correct.

The study brought to light one fact heartening to all friends of American public health, according to Mr. Glossinger. It proved that of over six million individuals on relief, only about fifty were physicians and surgeons. This compared with one thousand lawyers, three thousand ministers and religious workers and more than 20,000 teachers.

Mr. Glossinger stated that May would bring two opportunities to hospitals to asand with their needs. The first was National Hospital Day, observed on May 12, anniversary of the birth of Florence Nightingale, and the other was First Aid Week, which was celebrated throughout the country May 17-23.

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★ *Laryngoscope, Feb. 1935, Vol. XLV, No. 2, 149-154*
★★ *Proc. Soc. Exp. Biol. and Med., 1934, 32, 241-245*
N. Y. State Jour. Med., Vol. 35, No. 11,590
Arch. Otolaryngology, March 1936, Vol. 23, No. 3, 306-309

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PUBLIC HEALTH NOTES

Why Is It Declining?

Discussing the declining death rate from tuberculosis, Dr. K. E. Miller of the United States Public Health Service, in the monthly Bulletin of the Indiana Division of Public Health Service for February and March, lists the following features as having contributed directly or indirectly toward the reduction of tuberculosis mortality.

1. Education and publicity relative to ways and means of prevention and cure.
2. Improvement in hereditary strains towards tuberculosis resistance.
3. Prevention of devitalizing diseases which predispose to tuberculosis susceptibility.
4. Building up of individual body resistance through fresh air, sunshine, proper nourishment, and rest.
5. Improved housing conditions.
6. Improved general sanitation and hygienic living conditions.
7. Elimination of bovine tuberculosis; dairy sanitation; pasteurization of milk supply.
8. Early case finding.
9. Emphasis upon childhood infection.
10. Preventoria.
11. Sanatorium treatment.
12. Home treatment, with special emphasis on adequate public health nursing service.

Dr. Miller points out the well-known fact that the tuberculosis death rate has been declining since 1880 and deduces from this fact that probably another feature has been at work, namely, the tubercularization of the human race, "whereby most immunity takes place gradually over a long period of time." He concludes, however, that with the features listed above and public health work under county health units, the fight against tuberculosis can be won and that definitely organized tuberculosis work is instrumental in bringing about an acceleration in the decline of the death rate.—Bulletin, National Tuberculosis Association, June, 1936.

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BCG in Montreal

The University of Montreal undertook to investigate the value of Calmette's BCG vaccine at the request of the National Research Council in Canada. Professor A. Pettit was delegated by the Pasteur Institute to direct the work which began in April, 1926. He was succeeded by Dr. J. A. Breton and later by Dr. A. Frappier of the University of Montreal. A report of the results of the study thus far obtained is presented in the Canadian Public Health Journal, January, 1936, by Dr. J. A. Baudouin, Director, School of Applied Social Hygiene, University of Montreal.

In the period of June, 1926, to December, 1936, there were vaccinated 5,125 babies. These as well as control groups have been followed up.

The tuberculosis death rates of babies in contact with positive-sputum cases in the vaccinated group was 24 per thousand, whereas in the unvaccinated group the rate was 111, approximately four and one-half times as great. Considering the group of vaccinated babies 1-12 months, the rate was only 8 per thousand, in comparison with 49 per thousand in the unvaccinated group—six times as great—and in the group 1-7 years 18 per thousand among the vaccinated as compared with 64 per thousand in the unvaccinated.

These and other statistics of the Montreal group correspond closely with Calmette's figures.

"The findings," concludes the author, "tend to show more and more conclusively each succeeding year of observation that BCG vaccination against tuberculosis must be included as part of a complete campaign for the control of this disease."

It is impossible to determine the sex of the offspring by the method and technic described by Dorn and Sugarman.—Northwest Medicine.

The old rule of "When in doubt perform the complete operation for cancer of the breast" following the rule of Halstead, no longer holds good.—Annals of Surgery.

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BOOK REVIEWS

Books Purchased From the Colorado State Medical Society Fund, June 1, 1936

Dodge, C. W. Medical Mycology. 1935.

Huddleson, M. P. Food for the Diabetic. 1934. 3rd ed.

McKinley, E. B. A Geography of Disease. 1935.

Whitby, L. E. H., and Britton, C. J. C. Disorders of the Blood. 1935.

Winton, F. R., and Bayliss, L. E. Human Physiology. 1935.

Wolf, A. A History of Science, Technology and Philosophy in the 16th and 17th Centuries. 1935.

Speed, Kellogg. A Text-Book of Fractures and Dislocations. 1935. 3rd ed.

Surgical Pathology of the Peritoneum. By Arthur E. Hertzler, M.D., Surgeon to the Agnes Hertzler Memorial Hospital, Halstead, Kansas, Professor of Surgery, University of Kansas. 201 Illustrations. Philadelphia, Montreal and London: J. B. Lippincott Company. Price $5.00.

It is a difficult task to review a book of "The Master"—more difficult for one who has sat at his feet as a student and since then has accepted him surgically without question or regrets. Whenever the peritoneum is discussed the correct answer can be obtained in the writings of Hertzler. His opinion on the peritoneum is accepted the world over as the last word. If there is an authority on any medical subject, Hertzler can qualify on the peritoneum.

Hertzler always presents his subject in an interesting and easily understood manned. This book is no exception. The subject might easily be thought of as a dry pathology. It is anything but that; in fact, you may enjoy a good smile out of it here and there.

Beginning with the anatomy of the peritoneum and ending with tumors of the peritoneum, not a page of dry impracticality is to be fund. Every page one reads makes him a better abdominal surgeon.

Everyone who reads this book will be surprised at the new things in the anatomy of the abdomen. He will learn the physiology of the peritoneum and omentum under normal and abnormal conditions. It is presented in a new light. Much of the text is the result of his own research on absorbition, sensibility, and foreign bodies in the peritoneum. The healing of the peritoneum and exudate, etc., are presented in a most scientific way.

Every practicioner, whether surgeon or medical man, owes it to his patients to read the chepater on adhesions. He will be a better surgeon or physician for having done so, and many of his patients will be better off.

Peritonitis, local and diffuse, acute and chronic, and specific peritonitis are covered in a most scientific and practical manner. Intestinal obstructions, twisted omentum and pedicles of tumors, localized abscesses, subphrenic abscesses, etc., are considered in detail.

The book is profusely illustrated by Tom Jones. Most of the illustrations were made in the operating room and are unusually "true to life."

This book is worth studying. It is the work of "The Master."

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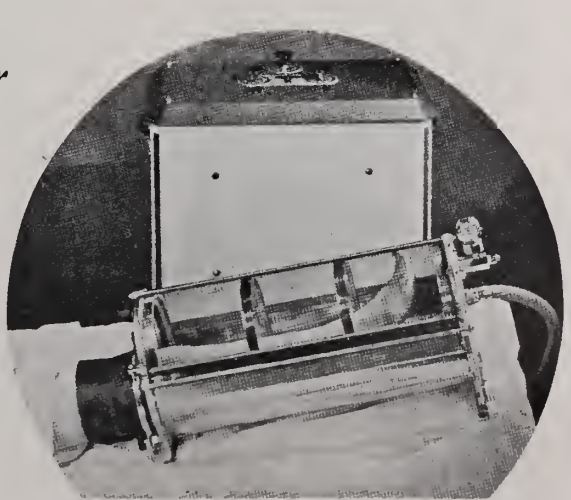
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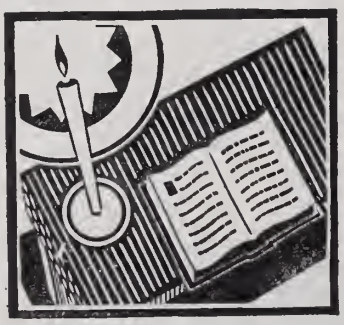
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Surgical Clinics of North America: Issued serially, one number every other month. Volume 16, Number 1. Chicago Number, February, 1936. 356 pages with 78 illustrations. Per Clinic year February, 1936, to December, 1936. Paper, $12.00; Cloth, $16.00 net. Philadelphia and London: W. B. Saunders Company, 1936.

In this issue there is a very complete and instructive symposium on cancer of the cervix which should be read by all general practitioners and surgeons, as well as gynecologists. This is a common condition, the early diagnosis of which is so important, yet so frequently missed until the condition is well advanced.

Bevan gives an interesting discussion of the present status of the problem of appendicitis. There has been a lot written on this subject recently, and statistics show that appendicitis is increasing in frequency and that there has been a gradual increase in the mortality from the disease. Bevans discusses this intelligently, as well as outlining the most approved methods of present day treatment.

Most men in the medical profession today know very little about manipulative surgery. Lewin has a long, comprehensive article on this subject, with numerous illustrations. This article is well worth the time spent in reading it.

Another well illustrated article which is of utmost importance is one on sprains, by Jennings. This volume contains a wealth of material in its many other articles on subjects of interest to practically all of the surgical specialists.

J. E. CONNELL.

Immunology. By Noble Pierce Sherwood, Ph.D., M.D., Professor of Bacteriology, University of Kansas, and pathologist to the Lawrence Memorial Hospital, Lawrence, Kansas. Illustrated. St. Louis: The C. V. Mosby Company. 1935.

It has long been necessary for the physician in general practice or in a specialty to keep in touch with medical advances in the laboratory. "Immunology" by Dr. Sherwood reveals the progress made in recent years within the well-known fields, while new subjects are carefully surveyed, avoiding the enthusiasm of the convert yet properly appraising and evaluating the recognized accomplishments in modern laboratory technic. In this day of comparatively rapid advances in all medical fields the need of the research mind in literature and technic is demanded.

This is the first book on the subject, gaining my attention, which contains a chapter on allergy. It is valuable to the student, since his training is not complete without recognition of the importance of recent work in this branch of medical practice.

A word should be said about the author-s exhaustive references, which complete an excellent book on a most important subject. Only a few years ago a physician was considered well trained if he knew Anatomy, Physiology, and Pathology. More recently he has been compelled to know Immunology in all its phases.

Dr. Sherwood is to be voted a tribute among medical writers for his comprehensive work so thoroughly and painstakingly done.

LEO CONWAY.

Synopsis of Clinical Laboratory Methods. By W. E. Bray, B.A., M.D., Professor of Clinical Pathology, University of Virginia; Director of Clinical Laboratories, University of Virginia Hospital. Thirty-two Text Illustrations. Eleven Color



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Plates. St. Louis: The C. V. Mosby Company, 1936. Price, $3.75.

As is indicated by the title, this work is not in any sense complete nor intended for reference use. It is, however, more complete than any synopsis of a similar nature which it has been the reviewer's privilege to read. The methods recommended and very briefly described are the best methods generally accepted at the present time, including newer procedures which have been found of proved worth in the past year or two.

The chapters are clearly and well written and deal with laboratory examinations of value in various cases, urinalysis, hematology, blood chemistry, gastric analysis, feces and intestinal parasites, puncture fluid examination, sputum examination, bacteriology, water and milk examination, serology, basal metabolism tests, allergy tests, poisons and foreign substances, surgical pathology and tissue methods and the preparation of indicators, reagents, solutions, etc. The illustrations are not numerous but the black and white drawings are accurate and diagrammatic, being more instructive than the few color plates. All material is well organized and very briefly presented, following a definite style. First is presented a short description of the methods for examination, followed by a very concise discussion of the significance of results in different diseases compared with normal findings.

The chapters on urinalysis, hematology and blood chemistry are quite complete. Those dealing with bacteriology, serology, and other clinical laboratory methods are less so. Many new tests not yet in general use are described and their indications discussed.

This synopsis will be found of most value to the well trained laboratory worker or technician. The clinical pathologist will find it lacking in details sought for in reference works.

For the busy physician interested in looking up methods and indications for tests without a search of the literature, this synopsis will be found ideal.

GEORGE Z. WILLIAMS.

"Dust." By S. Cyril Blacktin, Ph.D 296 pages. Illustrated. About 6x9 ins. Cloth bound. Cleveland, O.: Sherwood Press. Price, $6.50 net, postpaid.

Dust has been called Industrial Enemy No. 1, and quite aptly, for the total damage wrought by dust undoubtedly exceeds that due to any other destructive agent, not excluding corrosion. Nevertheless, the study of dust has been considerably neglected, and no book has hitherto been available on the subject.

Dr. Blacktin has sought to supply the need for a comprehensive monograph on dust, and has written an exceedingly useful treatise. The scope includes every aspect of dust, and his book will be valued for the bibliography alone, which lists more than 500 references. Among other subjects the author deals with dust storms, explosive dusts, and diseases caused by dusts.

The consideration of dust and its effects is required in widely diversified branches of science and technology, including geology, botany, agriculture, theoretical research, smelting and refining, air-conditioning, and many processing industries.

"Dust" is recommended as an authoritative reference work for research engineers, plant managers, health officials, and all who have to deal with the dust problem in manufacturing, science, and disease.

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Central City Opera House Gives World-Wide Fame

The following paragraphs represent an abridgement of a recent radio talk upon the Central City Opera House Association, given by Mr. Milton E. Bernet:

In our Colorado mountains we have one of the most famous theatres in the world. We are not surprised when we meet people from New York, or Budapest, or Singapore who are familiar with the beauty of our scenery, with our delightful climate, with our fine schools, but we are probably shocked when they begin to express their interest in and admiration for our internationally known theatre—the Central City Opera House. Yet that happens frequently to travelers today, and the regular trek of tourists in their cars up Virginia Canyon to Central City is convincing evidence of the lure it holds for visitors from out of our state.

Central City has brought Colorado to the favorable attention of millions of people in all parts of the world.

Here are a few excerpts from several articles about Central City which have appeared in national publications:

Vogue several years ago published a beautiful photograph of the opera house on its editorial page. Beneath the photograph appeared this editorial:

"You may be gazing on the Bayreuth or the Salzburg of America in the homely, neat facade at the left. It sounds incredible, but if you remember that old saw about great oaks and little acorns and if you ever talked to anyone who saw the Lillian Gish 'Camille' in the opera house in the West last summer, you will sit up and take notice.

"It is rather amazing that in this vast land of ours there hasn't been one place of pilgrimage, one artistic goal for people to travel toward, every year, as a matter of course and preference. It would solve that question, 'Where shall we go this year, if we don't go to Europe?' "

The London Times said, in an extended story about Central City: "The Festival was destined to become famous in American theatrical history."

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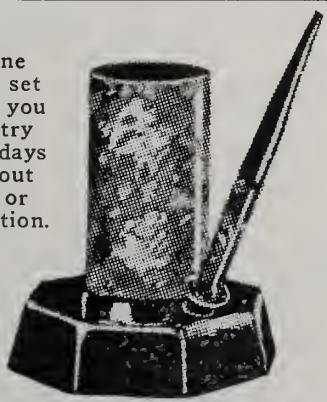
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have spoken of Central City in these past four years, so that hundreds of millions of readers have read about it and have come to think of the opera house as an old friend.

And thus Colorado has something it has long needed—a focal point for tourist traffic, something entirely apart from its glorious scenery and climate.

Colorado is deeply indebted to two of its outstanding women who are largely responsible for the success that has attended the reopening of the old opera house—Miss Anne Evans, patron of the arts and president of the Central City Opera House Association, and Mrs. Frederick McFarlane, of the faculty of the University of Denver. Their leadership has had a great deal to do with carrying forward the festivals from year to year, with mounting success.

The stage is set for this year's festival. On Saturday, July 18, at 8:30 p. m. the doors of the opera house will swing open again to usher in another glamorous play festival, the fifth of the series. This year Gilbert and Sullivan's beautiful but infrequently produced opera, "The Gondoliers," will be recreated with an all-star cast under the direction of Frank St. Leger.

Mr. St. Leger's work in the production of "Central City Nights" in the opera house last summer will be long remembered. He arranged and conducted and in large part composed the music, and was associated with Robert Edmond Jones in its production. Mr. St. Leger is one of the most brilliant symphony and orchestra conductors in America.

The production of "The Gondoliers" is destined to uphold the best traditions of the theatre in the manner to which the opera house has been accustomed whenever it has opened its doors to the public.

Its tradition is rooted on a great past; for on its stage have appeared such immortals of the theatre as Booth, Bernhardt, Barrett, Salvini, Modjeska, Januschek, Joseph Jefferson, and a host of others.

But a word about the present series of Play Festivals which have so well maintained this tradition. Since the beginning the festivals have been sponsored by the pioneer institution of learning in the mountain country, the University of Denver.

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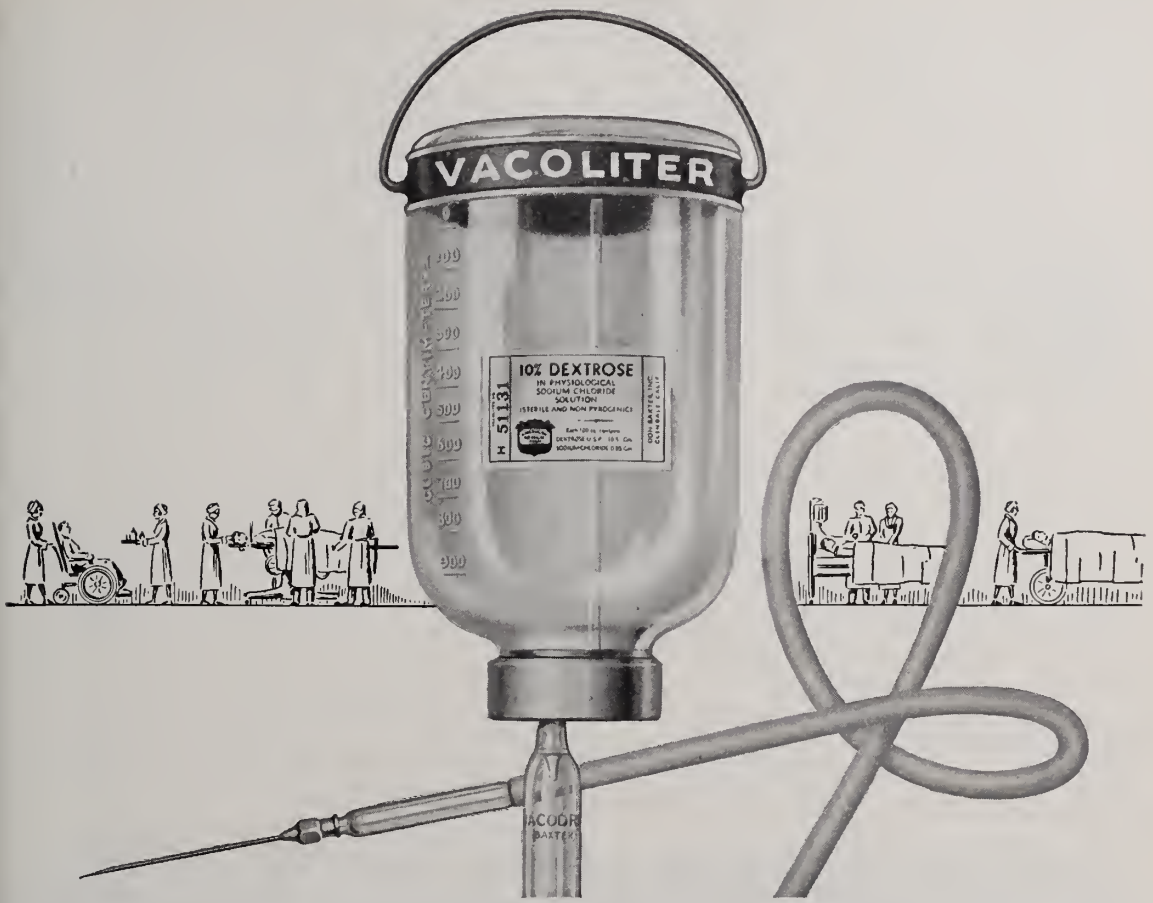
No one who attended the festival in 1932 when Lillian Gish created a superb "Camille" can ever forget the thrill that was his as the opera house, which has slumbered with its memories for so many years, awoke to what many believed was the most beautiful production of the American theatre that year. So that the shock of awakening would not be too severe, the audience on that first night wore the rich costumes of the period when Worth ruled the world of fashion.

Even more exciting was the second festival when Robert Edmond Jones brought together the glorious voice of Gladys Swarthout, Richard Bonelli, and Natalie Hall for a production of "The Merry Widow," which inspired a writer in the Vienna, Austria, Journal, to write that "it was the equal of the best productions of this operetta which I have seen in Vienna or Berlin."

Then in 1934 Walter Huston, outstanding actor of the American theatre, appeared in the title role of "Othello," supporting Nan Sunderland, Helen Freeman, and Kenneth MacKenna. This was recognized as a significant occasion in the history of the American theatre.

Last year Central City came into its own with a re-creation of "Central City Nights," which caught something of the enchantment of all of Central City's gay past, sweeping back to that pioneer day when Gregory, hardy prospector, found gold at what is now known as "Gregory's Diggins" in the mountainside between Central City and Blackhawk.

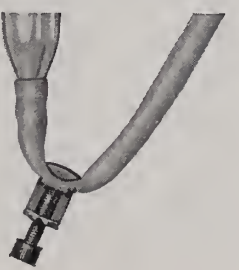
A more picturesque setting for a revival of the rollicking Gondoliers would be hard to imagine. The opera house is really a theatre within a theatre. It was built in 1878 by a popular subscription among the gold-seekers. Its walls, four feet thick, of rock taken from the mountain back of it, enclose and shelter the exquisite interior, gay with frescoes, crystal chandeliers and the crimson carpet of another day. The larger theatre, quaint old Central City itself, clings high up on the slopes of the Continental Divide. Here the visitor to the festival enters the life of another age, a life whose pattern is woven on a background



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of sprightly dance-hall tunes, the clump of booted feet, the rumble of ore wagons.

The visitor to this year's festival will again be ushered into these charming days of the old West, born again. Mr. St. Leger has assembled a cast of outstanding artists to bring Gilbert and Sullivan's beautiful opera to life.

Again, the comfortable, old-fashioned Teller House with its rooms refurbished, will be ready to welcome its guests. It opened for the season on June 20 under the management of Mr. Art Bazata, formerly of Schrafft's, New York. Delicacies peculiar to Central City's gayest period—Central City pastries, saffron bread, wine soup, and many other unusual dishes will be served during the festival.

The history of the Teller House is as thrilling as that of the opera house itself. Here President Grant once walked from the stage-coach to the entrance on a pavement of silver bricks. In one suite is furniture which belonged to "Baby Doe" Tabor (of Silver Dollar fame), as a young bride. Legend has that it was in Central City that Horace Greeley was inspired to advise the younger generation to "Go West, Young Man, Go West."

The opera house belongs to the University of Denver. This year's production of "The Gondoliers," as with the four festivals which have preceded it, is sponsored by the Opera House Association, a group of public spirited citizens interested in the drama.

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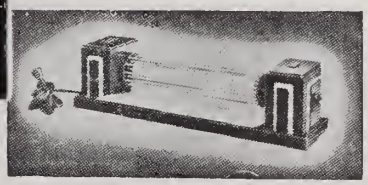


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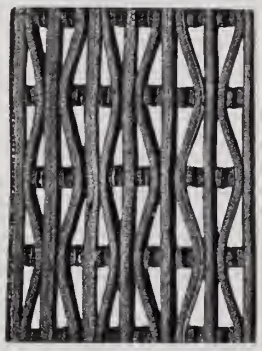
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COLORADO MEDICINE

Title Reg. U. S. Pat. Off

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VITAMINS IN CANNED FOODS

II. VITAMIN D

• One of the most interesting chapters in the history of the science of nutrition is that relating to vitamin D. It is a record of steady advances in our knowledge concerning the vitamin. Starting with the work of Huldschinsky in 1919 on the ultraviolet irradiation of rachitic children; passing to the classical discovery in 1924 by Steenbock (1) and by Hess (2) that irradiated foods may acquire antirachitic potency; and extending through the profound studies of Windaus (3) and other investigators, on the constitution of the pure vitamin D obtained by ultraviolet irradiation of ergosterol, the story of vitamin D is a story of steady, scientific progress.

As a result of these basic contributions, there are available today a number of excellent standardized carriers of vitamin D. Viosterol, and the fish liver oils, and their concentrates, are readily available for use in the campaign against rickets whose prevalence, especially among infants in large urban centers, still remains high. In addition to these vitamin D carriers, the vitamin D fortified or irradiated foods have appeared within recent years.

It has become increasingly evident that there are a number of compounds which may promote calcification in the various animal species. It is further evident that these compounds vary in their physiologic efficiency with various animal species, or that they are "species specific". A number of forms of vitamin D have been postulated (4) and much research in the vitamin D field has been directed toward their isolation and identification.

In general, natural foods have never been regarded as important sources of vitamin D. The commonest food articles show extremely low antirachitic potencies when measured by conventional methods. However, recent evidence has been offered that the contribution of vitamin D made by a varied diet of canned foods may be more significant than has heretofore been supposed (5). While common foods admittedly cannot supply the high demands of infancy and childhood or other phases of the life cycle, for vitamin D, it would appear that they may supply significant amounts of the vitamin to the diet, especially in the case of the adult human, concerning whose quantitative vitamin D requirement comparatively little is known.

Biological research has shown that canned marine products such as salmon, shrimp, and oysters (6) make a small but definite contribution of the antirachitic factor to the diet. We desire to direct the attention of our readers to these interesting facts about canned foods in general, and these canned marine products in particular.

AMERICAN CAN COMPANY

230 Park Avenue, New York City

(1) 1924. J. Biol. Chem. *61*, 405
(2) 1924. J. Biol. Chem. *62*, 301
(3) 1932. Ann. 492, 226
(4) 1935. Physiological Reviews *15*, 1-97
(5) 1934. Ind. Eng. Chem. *26*, 758
(6) a. 1935. J. Home Econ. *27*, 668
b. 1933. Science, *78*, 368
c. 1926. Wis. Agr. Expt. Sta. Bul. *388*, 124

This is the fifteenth in a series of monthly articles, which will summarize, for your convenience, the conclusions about canned foods which authorities in nutritional research have reached. We want to make this series valuable to you, and so we ask your help. Will you tell us on a post card addressed to the American Can Company, New York, N. Y., what phases of canned foods knowledge are of greatest interest to you? Your suggestions will determine the subject matter of future articles.

ACCEPTED AMERICAN MEDICAL ASSN. Committee on Foods

The Seal of Acceptance denotes that the statements in this advertisement are acceptable to the Committee on Foods of the American Medical Association.

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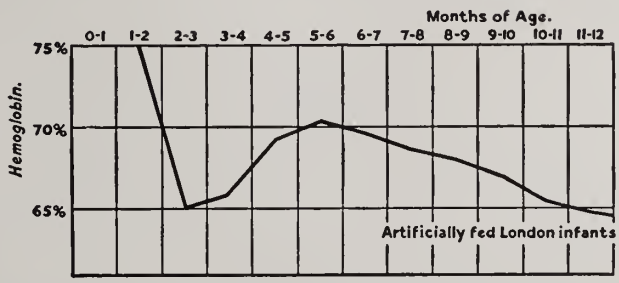
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Nutritional Anemia in Infants



Hemoglobin level in the blood of infants of various ages. Note fall in hemoglobin, which is closely parallel to that of diminishing iron reserve in liver of average infant. Chart adapted from Mackay. It is possible to increase significantly the iron intake of the bottle-fed from birth by feeding Dextri-Maltose With Vitamin B in the milk formula. After the third month Pablum offers substantial amounts of iron for both breast- and bottle-fed babies.

Reasons for Early Pablum Feedings

1. The iron stored in the infant's liver at birth is rapidly depleted during the first months of life. (Mackay,[1] Elvehjem.[2])

2. During this period the infant's diet contains very little iron—1.44 mg. per day from the average bottle formulae of 20 ounces, or possibly 1.7 mg. per day from 28 ounces of breast milk. (Holt.[3])

For these reasons, and also because of the low hemoglobin values so frequent among pregnant and nursing mothers (Coons,[4] Galloway[5]), the pediatric trend is constantly toward the addition of iron-containing foods at an earlier age, as early as the third or fourth month. (Blatt,[6] Glazier,[7] Lynch[8].)

The Choice of the Iron-Containing Food

1. Many foods reputed to be high in iron actually add very few milligrams to the diet because much of the iron is lost in cooking or because the amount fed is necessarily small or because the food has a high percentage of water. Strained spinach, for instance, contains only 1 to 1.4 mg. of iron per 100 gm. (Bridges.[9])

2. To be effective, food iron should be in soluble form. Some foods fairly high in total iron are low in soluble iron. (Summerfeldt.[10])

3. **Pablum is high both in total iron (30 mg. per 100 gm.) and soluble iron (7.8 mg. per 100 gm.) and can be fed in significant amounts without digestive upsets as early as the third month, before the initial store of iron in the liver is depleted. Pablum also forms an iron-valuable addition to the diet of pregnant and nursing mothers.**

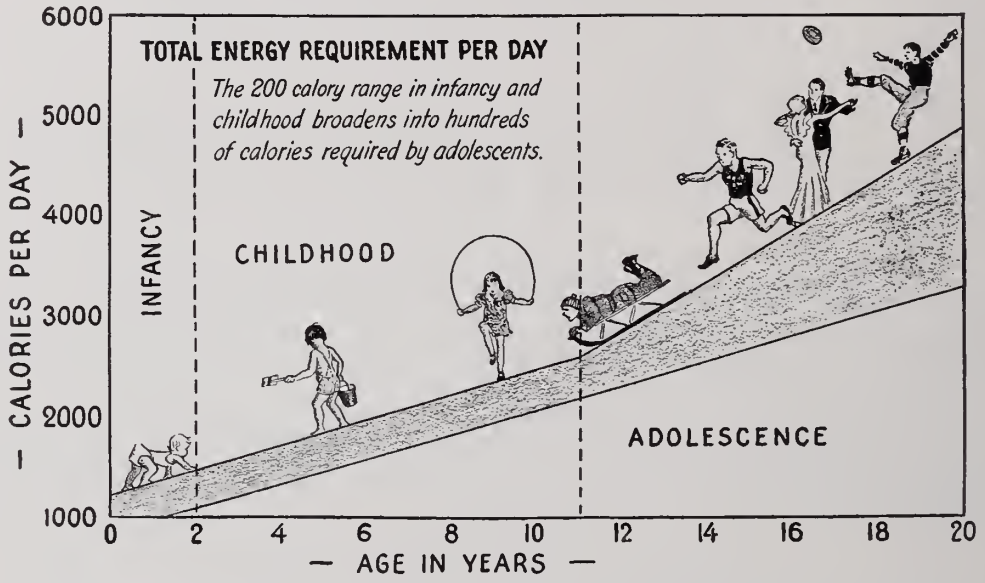
Pablum (Mead's Cereal thoroughly cooked and dried) consists of wheatmeal, oatmeal, cornmeal, wheat embryo, brewers' yeast, alfalfa leaf, beef bone, iron salt and sodium chloride.

[1-10] Bibliography on request.

MEAD JOHNSON & COMPANY, Evansville, Indiana, U. S. A.

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The graph reveals the sudden rise in caloric requirement during adolescence. Three hurried meals are usually insufficient to provide the tremendous caloric needs. Accessory meals, mid-morning and mid-afternoon, in certain instances, may be prescribed with advantage. And Karo added to foods and fluids can increase calories as needed. A tablespoon of Karo yields 60 calories. It consists of palatable dextrins, maltose and dextrose (with a small percentage of sucrose added for flavor).

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"...One factor of decisive importance to the success of the method of treatment [of early syphilis] is the *regular steadiness* of its administration." Thus the report* made under the auspices of the Health Organization of the League of Nations following a study of 13,198 cases of syphilis stresses the importance of continuous treatment with an arsenical plus a heavy metal.

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*Martenstein, H.: Syphilis Treatment: Enquiry in Five Countries, *League of Nations Quart. Bull. Health Organ* 4:129, 1935.

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PRINCIPAL OFFICES AND LABORATORIES, INDIANAPOLIS, INDIANA, U. S. A.

Colorado Medicine AUGUST 1936

Editorial

Program for Glenwood Springs

HERE is your Program Number of Colorado Medicine for the Sixty-sixth Annual Session of the Colorado State Medical Society to be held at Glenwood Springs, September 9 to 12. You will note that the favorite attractions of previous meetings are being featured. We refer to the Clinico-Pathological Conferences, Guest Speakers, and Exhibits. It is not out of place to mention also that the social attractions are of very special merit.

The pathological conferences will consist of case presentations, postmortem findings, gross specimens and microphotographs. Clinicians, roentgenologists, and pathologists will lead the discussions—in which all may take part.

Announcement has already been made of our good fortune in procuring guest speakers. These men represent outstanding accomplishment and national renown in their respective fields. Their subjects are of timely interest and practical importance to every physician. A consideration of Syphilis, of Shock from Traumatic Agents, and of the Relationship between the Practicing Physician and the Public Health Worker are subjects which concern every medical man and woman. By request of the membership of this society, the guests will lead discussions at the Round Table Luncheons following their papers. This innovation of last year created such enthusiastic comment that it has unquestionably become a permanent feature of our annual meetings.

Again, time is being allowed each exhibitor for description and demonstration of his work. The Exhibit Committee is working upon a novel scheme for systematizing inspection of the exhibits. Several nurses are being coached upon the description of each exhibit. They will be in constant attendance and will conduct groups of observers through the display, thus facilitating complete understanding and affording ample opportunity for questions and discussion.

Note the breadth and general applicability of some of the subjects to be presented by speakers at the general assemblies: Chronic headache, verruca, pneumonia, hernia, biliary tract diseases, heart disease, cancer, blood dyscrasias. Nor is the field of economics to be neglected. The State Board of Medical Examiners has done more in the past two years than in the previous ten years toward prosecuting unlicensed practitioners. This and the Board's other activities will be discussed. The present and future of the Social Security Law in Colorado, particularly in its public health and medical aspects, will be considered.

Finally, but never of minor significance, note the social attractions for yourself and family: Stag smoker, golf tournament, the famous swimming pool, joint meeting with the Women's Auxiliary (we are assured this is to be *different*), and the annual banquet. Not the least attraction of this meeting is its colorful setting—

Glenwood Springs, September 9-12, inclusive and exclusive!

Last Call For Exhibits

THERE still is room for a few more scientific exhibits. Any physician wishing to present one at the Glenwood Springs meeting should communicate at once with the Exhibit Chairman, Dr. Nolie Mumey, 1133 Republic Building, Denver, or with the Executive Office of the State Society, 537 Republic Building. Do not delay.

Henry Sewall

"FOR a physician who is a lover of wisdom is the equal of a god."

No tribute to our late colleague, Dr. Henry Sewall, could be better penned than this quotation from Hippocrates. The passing of of one who gave his life to the science and art of medicine rather than to enrichment is no common event.



—Photo Courtesy Dr. H. J. Corper.
HENRY SEWALL, M.D.
President, 1924-1925, The Colorado State Medical Society

It was his instinct to seek to answer the "wherefore" of every "why" and in his presence one could almost sense the emanations of intellect. The spirit to seek out Nature's secrets had existed in a grandfather, Thomas Sewall, who was graduated in medicine at Harvard in 1812. The literary talent, which enriched his publication, came from his father, a clergyman, known as the "silver-tongued Sewall." Such inherited traits were enhanced by the lifelong help and devotion of his wife with whom we now share her great sorrow.

It has been well written that "Perhaps there is no science which requires so penetrating an intellect, so much talent and genius, so much force of mind, so much acuteness and memory, as the science of medicine. The high character of a perfect master of the art must be the result of a combination of a multiplicity of qualifications, which must be partly natural, and partly acquired and improved by laborious cultivation." It was such a combination which made of Henry Sewall a great physician, scholar and gentleman.

In early life it was the good fortune of Henry Sewall to work under two great physiologists—Michael Foster in England, and Carl Ludwig in Germany. Of Michael Foster, Sewall wrote, "He despised the foible of vanity and had no patience with mercenary inclinations." In Carl Ludwig, Sewall admired the dogged determination to complete an experiment and he later wrote, "It set me to thinking perhaps it was this sort of thing that made Ludwig preeminent." It is easy to see the influence of these great men in the life of Henry Sewall, and it was such an influence he passed on successfully to another generation.

Pondering over Jenner's vaccination, Pasteur discovered that the inoculation of attenuated organisms of chicken cholera resulted in immunization. Pondering over Pasteur's publications Henry Sewall was led to investigate the possible immunization of pigeons to rattlesnake venom. It was known that pigeons were peculiarly sensitive to rattlesnake venom. First determining the minimum fatal dose, Henry Sewall, in 1887, by repeated inoculations of sub-minimal doses successfully immunized pigeons to this poisonous protein. These experiments were recognized in Europe as the foundation on which the development of antitoxins was built. Physicians from all parts of the world have stood in reverence before the tablet erected at Ann Arbor to commemorate the experiments of Henry Sewall, the former Professor of Physiology at the University of Michigan.

Pulmonary tuberculosis brought Henry Sewall to Denver and the courage with which he met this affliction and its complications and the triumph over typhoid, with rib necrosis, is well known to his friends.

No better basis for medical practice exists than a training in physiology and the Ph.D. of Johns Hopkins of 1879 became an M.D. of the University of Denver in 1889. The man of thought became the medical practitioner and thus was fulfilled another Hippocratic maxim: "For many cases need, not reasoning, but practical help."

The practice of medicine was illuminated by the spirit of investigation, and in heart disease and in tuberculosis the research spirit of Henry Sewall prevailed. For many years he worked in and inspired the research department of the National Jewish Hospital.

To have been president of the Colorado State Medical Society, of the National Tuberculosis Association, of the American Climatological and Clinical Association, and of the Association of American Physicians; to have been the recipient of the Kober medal of the Association of American Physicians and of the Trudeau medal of the National Tuberculosis Association—such are honors in recognition of worth which few physicians can attain.

As a practitioner, and as a consultant in internal medicine, his consideration, under standing, gentleness, and effort will live in the medical history of Colorado just as his scientific spirit will live in the medical history of the world.

A splendid portrait of Dr. Sewall by McClymont hangs on the walls of the library of the Denver County Medical Society.

Born in Winchester, Va., May 25, 1855, Dr. Henry Sewall died from coronary thrombosis in Denver, July 8, 1936.

The desire of all the physicians of Colorado will be to join in the words of the greatest of poets:

"Quiet consummation have;
And renowned be thy grave!"

G. B. W.

The Midsummer Radiological Conference

UNDER the sponsorship of the Denver Radiological Club, the Rocky Mountain Midsummer Radiological Conference presents its second annual program early this month, August 5, 6, and 7, at the Shirley-Savoy Hotel in Denver. Elsewhere in this issue is a reminder of special program features. Every physician in Colorado has received a preliminary program and a cordial invitation to attend. Our radiologists are to be congratulated for arranging such an outstanding program. It will attract a notable attendance.

CORRESPONDENCE

To the Editor, Colorado Medicine:

This is a letter from the editor of Current Medicine to another editor whom I know to be interested in decent medical journalism and fair practice. It is inspired by your article in Colorado Medicine of January, 1936, entitled "New Year's Resolutions—A Suggestion."

In your opening paragraph you refer to journals carrying ads. Therefore, you do not include Current Medicine, which never has printed an advertisement of any sort. You do, however, speak of magazines "appropriating" material and thereby undermining the livelihoods of other men.

It is my purpose to show that Current Medicine, while in a sense "appropriating" material, adds rather than subtracts from the welfare of others.

Current Medicine is not in competition with ordinary medical journals because, besides carrying no ads, it prints no pictures, charts, drawings or sketches, discussions, bibliographies, etc. Moreover, it does not pretend to cover any field or specialty with completeness. It merely selects for special attention certain outstanding articles in the entire literature.

We of Current Medicine believe that not only do these omissions exclude us from competition with ordinary journals, but that we actually create further demands for journals mentioned by us and which would otherwise go unread. An article, perhaps once or twice a year, from Colorado Medicine would certainly bring it to the favorable attention of many reads unfamiliar with your merits without injury to the publication.

This leads me to the points of authorization and ethics. Current Medicine has earnestly attempted to obtain specific authorization to condense from each of the leading medical journals of this country. Only a few have refused and we have sedulously refrained from using material from these publications. As an example, we mention the journal of which you yourself are editor.

The condensed form of articles has been adopted because, through conciseness by elimination rather than rearrangement, it is free from misinterpretation or misrepresentation and therefore fair to the author, preserving even his style to large extent. It is fair to the publisher, as adding nothing not contained in the original. It differs from the mere abstract which expresses only some conclusions or opinions and which are never sufficiently complete for the practical purpose of the readers. The welcome our magazine has received indicates its usefulness.

We believe that when you are acquainted with these facts you will in fairness admit our proper place and value and will allow us to draw upon Colorado Medicine in forwarding our common aim of professional service.

A. S. ARKUSH, M.D.,
Editor-in-Chief.

THE COLORADO MEDICAL FOUNDATION IS NOW A FACT*

HARVEY T. SETHMAN, *Executive Secretary*
DENVER

The Colorado Medical Foundation, conceived by Walter W. King, M.D., Denver, and suggested to the Colorado State Medical Society in his Presidential Address at the Sixty-fifth Annual Session at Estes Park September 5, 1935, is now an established fact. Broad authority for its creation was granted to the Board of Trustees by the House of Delegates of the Society at that Estes Park meeting. After months of study by committees of the Board of Trustees, after numerous conferences with legal counsel, the Board at what may well prove to have been the most momentous meeting that body has held to date took final action on July 8, 1936, putting the Society's name to agreements and resolutions marking this milestone. As this is written, the formal documents are ready for signature by the President, Treasurer, and Executive Secretary with a Denver trust company.

Origin of the Idea

In the last few years the critical need of organized medicine for sounder financial background has become increasingly apparent. While some have contended, citing comparable organizations and even organizations of medical offshoots and cults as examples, that physicians should pay higher annual dues to support their protective societies, such would not provide the type of financial foundation needed. Medical organization could, and should, do more for its members. It should be able to provide more material for its scientific meetings, its clinic sessions, its postgraduate endeavors. It should be able to tide its entire membership over a difficult year or two such as those recently experienced, by possibly remitting all dues for a period. It should be able to endow worthwhile research in both curative and preventive medicine; it should not leave such things entirely to the lay foundation of the occasional philanthropist. It should be able to lend and sometimes donate funds to its own worthy members who have become incapacitated, or to their widows or children. It should lead, better than it now does, in genuine education of the public in matters pertaining to public health.

These are but a few examples of major points considered in the original conception of the Colorado Medical Foundation.

Flexibility With Safety

All are familiar with the difficulties that confront the administrators of many existing foundations and endowments. Lack of vision on the part of founders, who failed to foresee changing conditions that would render needless the activities they endowed, resulted in such restrictions that the funds now stagnate. It was early determined that this Society's Foundation must avoid such pitfalls, and the utmost flexibility consistent with safety is therefore provided.

No one would give or bequeath to a foundation whose funds were not surrounded with every known wall of financial safety, or which would not be administered with the most meticulous care. The Colorado Medical Foundation is so designed that it is guarded not only by the trust laws, which in themselves are probably adequate, but with limitations that would prevent upset by any failure of the Trust Company, or even the possibility of political manipulation within any medical society. No bank or trust company with less than $1,000,000.00 paid-up capital and surplus may ever handle funds of this Foundation. Other legal protections which would require pages to recite surround the Foundation on every side.

General Purposes

Permissive paragraphs in the Trust Agreement approved by the Board of Trustees include those uses of funds indicated in the second paragraph of this article, describing such uses in legal terminology, and stating that "the above enumeration of purposes, however, shall not be taken to be exclusive but merely indicative of the types of activities contemplated hereunder," thus provid-

*Written on behalf of, and under the direction of, the Board of Trustees of the Colorado State Medical Society.

ing the necessary flexibility for all time. However, an important proviso in the Agreement states that all income from the Foundation "shall be used exclusively for charitable or educational purposes and the necessary expenses incident thereto." This places on the Foundation a general limitation consistent with the highest ideals of the medical profession. The term "educational" is legally broad enough to include together with the term "charitable" every altruistic endeavor of organized medicine; yet by placing these two terms in positive limitation upon the entire Foundation, the Foundation falls within the legal status of those funds exempt from major income, inheritance, and gift taxes—an important point.

Growth and Perpetuity

Since the Colorado State Medical Society is a non-profit corporation, and since the Colorado Medical Foundation is similarly non-profit, the Foundation is organized to be perpetual and irrevocable. Regardless of the possibility of changing the banks or trust companies which from time to time act as trustee of the funds, regardless of the remote possibility even of the dissolution of the State Medical Society, the Colorado Medical Foundation will go on, always under the control of the medical profession.

In the beginning, now, the fund is small. However, it is worthy of note that several hundred dollars in contributions were placed temporarily in the hands of the Treasurer of the Society as advance gifts to the Foundation even before the Foundation was legally established. Promises of several additional gifts, awaiting only the legal establishment, have come forward voluntarily. Growth of the Foundation would seem certain, the rapidity of growth depending almost wholly upon how well the Foundation is understood by the medical profession of Colorado.

It is provided that until the Foundation reaches the sum of $100,000.00, not more than 10 per cent of its net annual income may be turned over to the State Medical Society's Treasurer for expenditure by the Society. After it reaches $100,000.00, and until it reaches $1,000,000.00, up to 50 per cent of the net annual income may be utilized. After it reaches the million dollar figure, the portion of the income to be used, and the amount to be left in the fund to make it grow still further, will be determined by the Officers and Trustees of the Society. The principal, or corpus, of the fund will never be expended—only the income or part of the income, as above.

However, any individual donor to the Foundation, should he so desire, may stipulate that his particular donation shall be used in full, i. e., both principal and income. In fact, any donor may place funds in this Foundation for any purpose and under any special requirement that he may desire. Thus prospective donors may feel assured that here there exists a safe repository, and a safe administrator for any educational or charitable purpose relating to medicine or public health, which he may utilize without creating a new trust of his own. As protection against the remote possibility of "crackpot" donations, however, it is provided that either the Medical Society or the Trustee (the holding bank or trust company) may, in the absolute discretion of either, refuse to accept any proffered gift which might not be in keeping with the general purposes of the Foundation, or which because of restrictions placed upon the gift, or for any other reason, might not be safe.

Documentation

Many, probably hundreds, of members of the Medical Society would appreciate a publication here of the complete Trust Agreement and the resolutions and other documents which together constitute the legal establishment of the Colorado Medical Foundation. Space and costs of publication make this impossible at present. However, copies of all these documents are available for inspection or loan in the Executive Office of the Society, and soon will be available in pamphlet form in reasonable numbers for distribution to interested members, their interested patients and friends, and to interested members of the legal profession.

While the Foundation is now established and is legally ready to do business, much work remains for the next few months in order that every conceivable "loop-hole"

which might develop in the near or far future may be perfectly stoppered. The Medical Society, for instance, has for years placed its finances in the hands of the Board of Trustees. Yet under the present Constitution and By-Laws of the Society it is possible, if highly improbable, that such a complete over-night change might occur in the personnel of that Board at an Annual Session's elections that virtually all its members would be unacquainted with the Society's financial dealings. In the Society's present financial situation, such a change would not be particularly serious. But when the Foundation becomes a million-dollar trust fund, as it surely will in time, such a change might dangerously, though only temporarily, hamper the work. Thus legal counsel advises revision of the Society's Constitution and By-Laws, for the future certainty of having a Board of Trustees a majority of whose members have always had at least one year's experience on that board. The present Board of Trustees has begun, with the aid of the attorneys, preparation of such a revision for presentation to the House of Delegates at the Annual Session in Glenwood Springs.

More important from the legal point of view are the Articles of Incorporation of the Medical Society itself. The Colorado State Medical Society was chartered as a non-profit corporation on October 31, 1888, long before physicians could foresee the present breadth of organization activities, let alone visualizing a Colorado Medical Foundation. The Trustees therefore have also projected a revision of the corporate structure, which will be presented for formal action at Glenwood Springs.

For this further work, as well as for the general documentation of the Foundation itself, the Board of Trustees has retained the law firm of Twitchell, Clark, Burkhardt and Eckley of Denver. One of the firm's senior partners, Paul M. Clark, is widely known to members of the Society for his work in malpractice cases, though the firm devotes a majority of its practice to corporation and estate work.

Trustee Banks

For original Trustee of the Foundation, the Board of Trustees chose the International Trust Company of Denver, whose history, experience, safety and affiliations will recommend it to any investor and any investor's attorney. However, it is to be noted that the combination of "safety and flexibility" as the watch-words of the Foundation's principles as a whole will apply equally here. The Trustee may be removed by the Society (or may resign its trust) at any time upon sixty days' notice. Also, there is no limit to the number of banks or trust companies which may be appointed to hold part of the Foundation; the limits are only upon the qualifications of such companies.

As the Foundation grows, it will become advantageous and wise to name trustee banks in other cities, and perhaps additional ones in Denver. Should any individual donor to the Foundation, for instance, wish to stipulate that his gift should be kept in the hands of some particular bank in which he has supreme confidence, all that is necessary is for that institution to meet the already mentioned qualifications of paid-up capital and surplus, and legal power to handle funds of the Foundation type.

Work for Delegates

Every member of the Society is invited to study this Foundation, to understand its broad humanitarian purposes and the many advantages it has to offer prospective donors, whether they be donors of real or personal property, by outright gift while living or by will and bequest, by living trust or by life insurance, and for whatever worthwhile purpose each donor may choose to designate.

Every member of the House of Delegates is particularly urged to study the Foundation in view of the actions which will be necessary at the Glenwood Springs session next month. Further details of the legal aspects of the Foundation as they concern the House of Delegates will be published in the House of Delegates Handbook, which will reach all members of the House some ten days before the Glenwood Springs meeting. These details likewise will be available

at that time in printed form for all other interested members of the Society.

In conclusion, it should not be amiss to urge special effort on the part of every member of the Society to attend the Sixty-sixth Annual Session at Glenwood Springs, September 9 to 12. Though important historic milestones have been placed by officers of the Society under the authorities granted one year ago by the House of Delegates, even more important history in organized medicine will be written at this coming meeting.

DIAGNOSIS OF CANCER OF THE LUNG*

CHARLES O. GIESE, M.D.
COLORADO SPRINGS

This presentation consists of a brief review of twelve selected cases. Eleven of these cases are proved cancer of the lung, eight of them being primary, three metastatic. One case of suppurative lung disease is presented for its possible value in differential diagnosis. One case of cancer of the lung was successfully operated.

CASE 1

A. R., a contractor and driller, aged 57, was first seen by me on March 7, 1929, and died on March 28, 1929. The duration of his illness was five months.

Previous History: Influenza in 1918 was followed by chronic bronchitis. This was worse during the winter months. The bronchitis was not sufficiently severe, however, to interfere with his work and general activities.

Present Illness: In October, 1928, he had an attack which was diagnosed as influenza. He was rather ill for several days; following this, cough was increased. Patient began to lose weight and strength; cough gradually grew worse; there had been a loss of twenty pounds in weight. For the past week there had been a distinctly foul odor to the sputum, which had also become bloody. No marked hemorrhage. Vomiting had been present during the past week. Sputum varied in amount and occasionally large quantities were expectorated with no relief of the general symptoms.

Examination: Evidently a very ill individual; temperature, 101°; pulse, 120. Examination of the chest shows, on the right side, well-defined dullness, evidently outside from root to base, both anteriorly and posteriorly with marked diminution of breath sounds. There were moist rales heard over this area, not increased by cough. Trachea, slightly to the right. Abdomen presents some diffuse tenderness; no masses palpable. Patient was sent to the hospital and seen in consultation with the late Dr. I. D. Bronfin of Denver. The diagnosis rested between lung abscess and malignancy. On March 11, 1929, artificial pneumothorax was instituted on the right for diagnostic and possibly therapeutic value. Two treatments of 300 c.c. and 500 c.c. were given with fair compression of the right chest, but no displacement or compression of the mass seen at the right hilus. Following the second treatment the patient became dyspneic and there was evidence of displacement of the mediastinum to the left. Closing pressure at the time of the last treatment was plus 5. To relieve the dyspnea it was decided to withdraw air and plus 8 was recorded on inserting the needle. Six hundred c.c. of air withdrawn gave neutral pressure. A further puncture secured foul smelling pus.

Diagnosis: Malignancy of the right lower lobe with spontaneous rupture into the right pleura with resulting empyema. No metastases could be made out, but patient's rapid decline suggested metastases.

Autopsy: Large tumor mass at the right root with ulceration and perforation in right pleural cavity. Many metastases in liver and kidneys.

Microscopic Diagnosis, made by Dr. C. T. Ryder of Colorado Springs: Bronchogenic carcinoma of the right lower lobe, with metastases in liver and kidneys.

In the differential diagnosis between malignancy and lung abscess, it is important to remember that in lung abscess the expectoration of large amounts of foul smelling sputum is followed by marked temporary improvement. In malignancy no improvement is noted.

CASE 2

F. S., a cleaner and dyer, a male, aged 57, was seen in consultation with Dr. R. H. Kampmeier,

*Presented before the Sixty-fifth Annual Session of the Colorado State Medical Society at Estes Park, September 5, 1935.



Fig. 1. A. R., Case No. 1, taken March 7, 1929.

formerly of Pueblo. He was first seen June 20, 1931, and died on July 10, 1931. The duration of illness, nineteen months.

Previous History: Negative.

Present Illness: Onset, eighteen months prior to being seen. First complaint, weakness and cough. Twelve months after onset, expectoration was present. Dyspnea and loss of weight, fifteen pounds. Cough, spasmodic in character. Expectoration, scanty, one frank hemorrhage of half an ounce. In May, 1931, a diagnosis of aspergillus infection had been made from the sputum. Patient had failed to improve on large doses of potassium iodide.

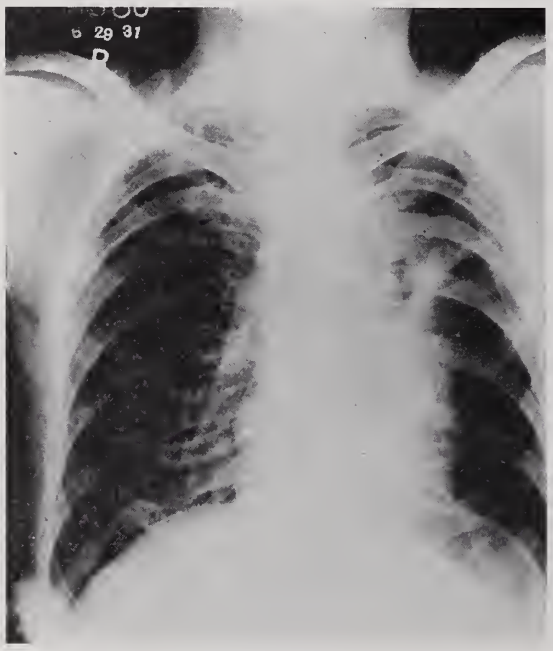


Fig. 2. F. S., Case No. 2, taken June 29, 1931.

Examination: Emaciated individual, marked lagging of left chest and extension of the normal mediastinal dullness to the left, most prominent at the second space anteriorly. Over this area were heard sibilant rales, increased during inspiration. No increase in rales after cough.

Diagnosis: Cancer of the left bronchus.

Autopsy: Small carcinoma extending upward and outward from the left root, encircling the upper lobe bronchus. Some breaking down of this tumor and a small cavity filled with pus. Culture from this pus showed aspergillus. No metastases were noted.

Microscopic Diagnosis: Cancer of the left upper lobe.

Points of Interest: Small size of tumor; aspergillus recovered from the sputum, death from pulmonary hemorrhage.

CASE 3

W. S. B., male, printer, aged 61, was first seen on August 9, 1933. He died on December 30, 1933. The duration of illness, two years.

Previous History: Influenza in January, 1931, with complete recovery.

Present Illness: In January, 1932, he had a diagnosis of influenza, more severe than his previous attack, without recovery or improvement. Chief complaints, dyspnea, loss of appetite and strength, cough, profuse sputum, marked loss of weight, and pain in the chest.

Examination: Marked dullness over left root posteriorly. Many moist rales. Rales also heard at right base. In September, 1933, enlargement of the axillary glands on both sides was noted. Sputum became blood streaked and later foul smelling.

Autopsy: Carcinoma of the left root with extension into the vertebrae on this side with breaking down. Small mass at the extremity of the right lower main stem bronchus, also carcinomatous and cavitated.

Microscopic Diagnosis, by Dr. C. T. Ryder: Carcinoma of the lung and hilum nodes. Metastases into dorsal vertebrae and axillary nodes.

CASE 4

W. D., a printer, male, aged 47, was first seen August 26, 1927, and died January 28, 1928. Duration of his illness, thirteen months.

Previous History: Negative.

Present Illness: Onset, March, 1927, with cough, pain, and loss of appetite. These symptoms have continued.



Fig. 3. W. D., Case No. 4, taken November 9, 1927.

Examination: Marked dullness at the right root with increase in dullness over the left root. On December 24, 1927, 50 c.c. of bloody serous fluid was obtained from the right pleura. On January 3, 1928, pleura again yielded bloody fluid. No relief in symptoms. A few cells characteristic of carcinoma were seen in centrifuged sediment.

Autopsy: Primary bronchogenic carcinoma of both roots. No microscopic examination made.

In this case there was a question of interlobar empyema on the left, excluded by the presence of a bilateral lesion and examination of pleural fluid.

CASE 5

J. A. M., a male printer, aged 29, was first seen November 1, 1933. He died January 13, 1934. Duration of illness, four years.

Previous History: Diagnosis of ulcer of the

stomach or duodenum was made in 1928. Patient treated medically with improvement.

Present Illness: Onset, February, 1930, with bloody sputum which has continued to the present time. Pain in right upper abdomen, severe, extends down the legs and is marked in the right arm. Cough, moderate in amount.

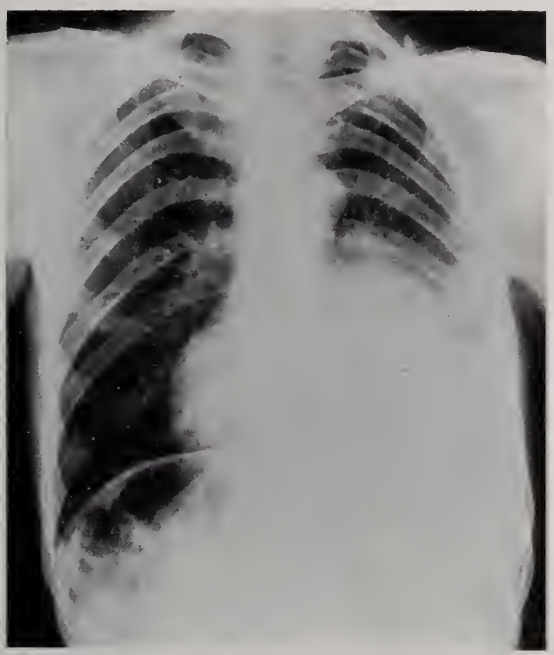


Fig. 4. J. A. M., Case No. 5, Taken December 22, 1933.

Examination: Marked dullness over right lower chest, well limited. A few bronchial rales. G. I. examination revealed definite ulcer of the duodenum but no evidence of rupture. Exploratory puncture of right lower chest failed to secure pus, the needle passing through a hard, fibrous area. On account of the marked G. I. symptoms on January 15, 1934, an exploratory laporatomy was done and a large ulcer found on the first portion of the duodenum which was excised. At the time of operation it was determined the liver was in normal position and of normal size with no evidence of abscess either within or above the liver.

Diagnosis: Carcinoma of the right lower lobe.

Autopsy: Carcinoma of the entire right lower lobe with involvement of the mediastinal glands. No metastases were noted.

Microscopic Diagnosis: Same.

Points of Interest: Because of the presence of ulcer in the G. I. tract there was the possibility of its rupture with resulting subphrenic abscess. The irregular, septic type of temperature together with the dense shadow at the right base were confusing.

CASE 6

W. E. B., aged 69, male, printer, was first seen August 20, 1932. He died January 21, 1933. Duration of illness, three years and five months.

Previous History: Negative.

Present Illness: Onset, 1929, with substernal pressure, pain and dyspnea. In August, 1931, he was examined at Ford Hospital in Detroit. Bronchoscoped; tissue was removed. Diagnosis, bronchogenic carcinoma. A course of x-ray treatment was instituted.

Examination: Marked dullness at the right base with absence of breath sounds. No change in condition until January, 1933. At that time marked increase in cough and expectoration of bloody fluid. Aspirated 125 c.c. of fluid from the right pleura without appreciable relief.

Autopsy: Five hundred c.c. bloody fluid in right pleura. In the right lower main bronchus about two inches from the bifurcation was a hard, well defined mass extending posteriorly and laterally. The mass surrounded the right lower bronchus, producing stenosis but not a complete occlusion.

Microscopic Diagnosis, by Dr. C. T. Ryder: Bronchogenic carcinoma of the right lung.

Points of Interest: Diagnosis by biopsy seventeen months prior to death. No change in condition for a considerable period.

CASE 7

F. G., male, aged 61, pharmacist. He was first seen March 25, 1933, with Dr. C. F. Stough, Colorado Springs. Died, April 20, 1933. Duration of illness, seven months.

Previous History: Negative.

Present Illness: Onset, September, 1932, with pain in the chest and marked dyspnea. Aspirated two quarts clear fluid from the right pleura which failed to relieve dyspnea. Following this he was frequently aspirated of amounts from 1000 to 2000 c.c. without more than temporary relief. Opiates required for relief of pain. Shortly before death, aspirated fluid became bloody.

Examination: Right chest flat apex to base with all physical signs of fluid in the pleura.

Autopsy: Right pleural cavity filled with cloudy, bloody fluid. Pleura generally and markedly thickened. Visceral, parietal and diaphragmatic portions about 2 mm. thick and showing a network of ridges and nodules of the same consistency. Right lung showed carcinomatous involvement with no ulceration. Many metastases in the liver.

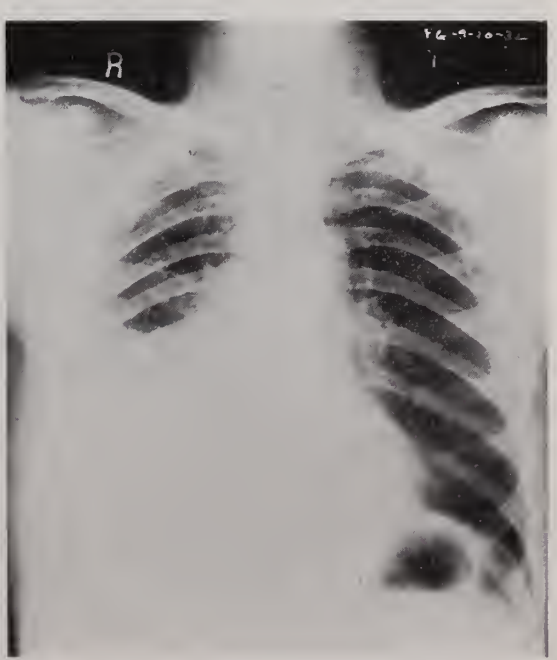


Fig. 5. F. G., Case No. 7. Taken September 20, 1932, before aspiration.

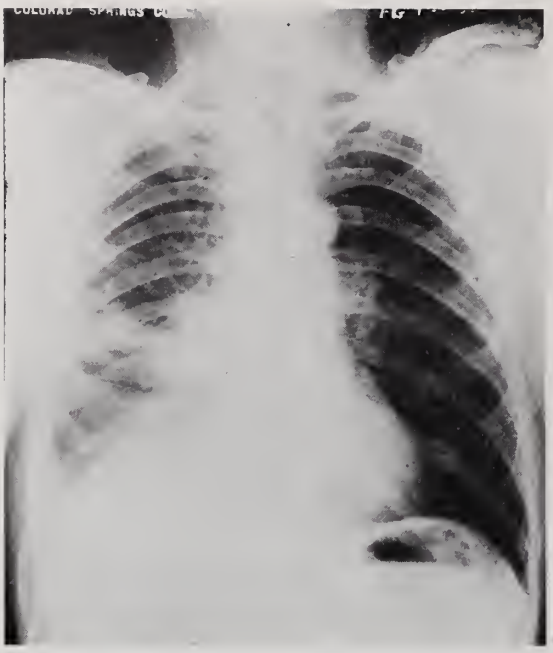


Fig. 6. F. G., Case No. 7. Taken September 22, 1932, after aspiration.

Microscopic Diagnosis (Dr. C. T. Ryder): Carcinoma of the right lung, right pleura and liver, the picture corresponding very closely with pleural endothelioma.

There is a question whether the origin of this tumor was in the pleura or in the lung with marked pleural extension.

CASE 8

J. S. T., male printer, aged 71, was first seen July 18, 1934. He died October 21, 1934. Duration of illness, four months.

Previous History: Negative.

Present Illness: June 15, 1934, severe pleuritic pain in right chest with cough and bloody expectoration. Sputum continues to be bloody. Constipation marked. No history of vomiting or tarry stools.

Examination: Very ill individual with dullness at both apices, more marked on the left. Sibilant rales heard over entire chest. Abdomen shows marked fullness in upper mid-portion with considerable tenderness. Patient too ill to be examined fully.

Autopsy: Tumor growth about three inches in diameter in the left lung. At the head of the pancreas was a definite tumor growth, considered primary, and in the spleen a single area of metastasis. Liver, filled with small tumors.

Microscopic Diagnosis: Primary adenocarcinoma of the pancreas, metastases to the spleen, liver and left lung.

Points of Interest: First symptoms were referable to metastases and not to primary tumor.

CASE 9

J. H. J., male printer, aged 67, was first seen January 23, 1928. He died on September 25, 1933. Duration of illness, one year.

Previous History: Negative.

Present Illness: For some months, muscular soreness in arms. Slight incontinence of urine.

Examination: Chest, negative. Blood pressure, 200/90. Diagnosis, hypertension; chronic prostatitis. In September, 1932, he had marked shortness of breath. Blood pressure, 110 systolic. Chest examination, negative; abdomen, large movable mass in right upper abdomen. Diagnosis, malignancy of the right kidney with metastases to the lungs.

Points of Interest: At no time cough or expectoration, dyspnea being the most prominent symptom.



Fig. 7. J. A. T., Case No. 9. Taken June 23, 1930.



Fig. 8. J. H. T., Case No. 9. Taken January 21, 1933.

CASE 10

L. Mc., a male printer, aged 52, was first seen December 23, 1929. He died on May 4, 1930. Duration of illness, eleven months.

Previous History: Negative

Present Illness: In June, 1929, hoarseness and swelling of right side of neck and loss of weight and appetite.

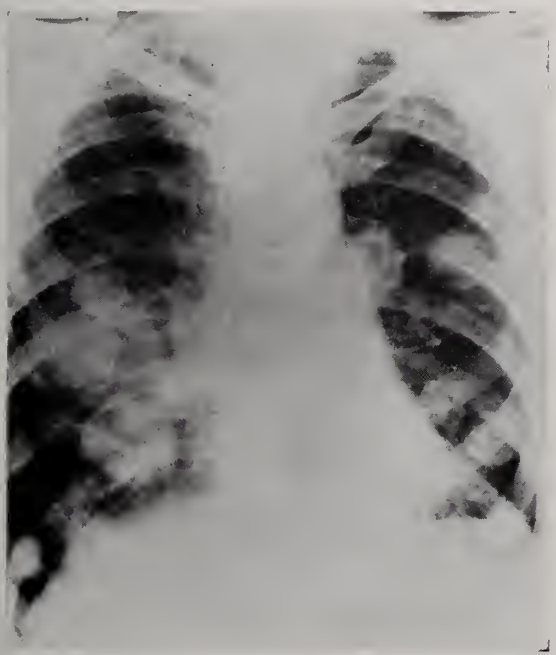


Fig. 9. L. Mc., Case No. 10. Taken December 27, 1929.

Examination: Marked enlargement of cervical glands on the right. Chest showed scattered areas of dullness, but no rales.

Diagnosis: Malignancy of the right side of the neck with metastases to the lungs.

Autopsy: Malignancy of the right side of neck with metastases to the lungs, liver, spleen, kidneys, abdominal glands and mesentery.

No microscopic examination.

Points of Interest: No expectoration. Extensive metastases.

CASE 11

C. E. H., a male printer, aged 43, was first seen September 9, 1933. He died October 28, 1934. Duration of illness, eighteen months.

Previous History: Negative.

Present Illness: Onset, April, 1933, with swelling in the jaw from abscessed tooth. Following this sudden pleuratic pain in the right side. Sputum streaked with blood, fever, severe cough, expectoration, mucopurulent in character with distinctly foul odor. Loss of weight from 125 to 97 pounds.

Examination: Slight dullness in right upper chest with moist rales suggesive but not pathognomonic of pulmonary tuberculosis. Patient had remissions with normal temperature and improvement in general condition. April 3, 1934, artificial pneumothorax was instituted. Some improvement with decline in temperature and decrease in the amount of sputum. Marked exacerbations with high temperature and profuse sputum. In October, 1934, severe pain in right

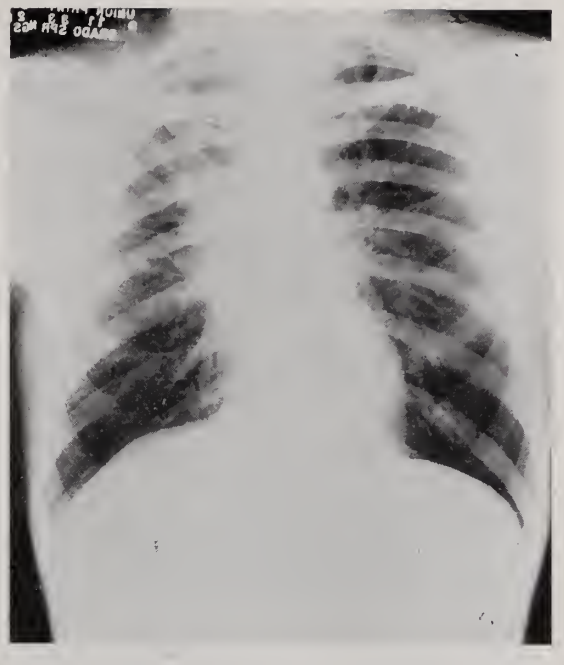


Fig. 10. C. E. H., Case No. 11. Taken September 11, 1933.

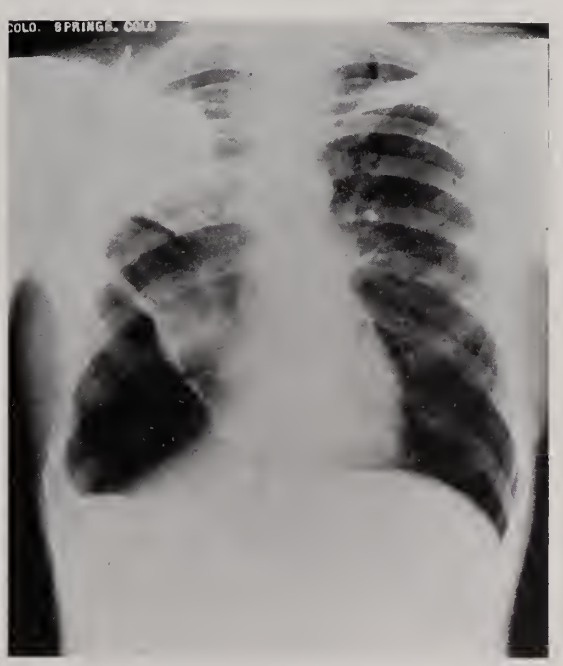


Fig. 11. C. E. H., Case No. 11. Taken October 22, 1934.

chest, cyanosis, temperature, 103°. Air and purulent fluid were aspirated from the right pleural cavity without relief and permanent drainage instituted by trochar.

Diagnosis: Malignancy of the right upper lobe with rupture into the right pleura.

Autopsy and Microscopic Diagnosis (Dr. C. T. Ryder): Lung abscess, chronic pneumonia, empyema. No evidence of malignancy.

Points of Interest: The marked increase of the

apparently consolidated area with sharp outlines as seen in the x-ray plate and the failure of compression by artificial pneumothorax led to the erroneous diagnosis of cancer of the lung. The marked remissions and exacerbations, if carefully considered, should have led to a diagnosis of suppurative disease rather than malignancy.

CASE 12

W. C., an oil operator, aged 54, was first seen on January 10, 1935. The duration of his illness at that time was five months.

Previous History: Appendectomy, 1912. Suppurating cervical glands, in 1912, proved to be non-tuberculous. Gastric ulcer in 1919, permanently relieved by diet; tonsillectomy, 1933.

Present Illness: In August, 1934, noticed occasional blood streak in sputum with cough. Cough increased by exercise and more particularly by bending forward. No frank hemorrhage.



Fig. 12. W. C., Case No. 12. Taken February 25, 1935.

Examination: Sibilant and a few moist rales at the extreme right base. Slight dullness. Auscultatory signs increased by voluntarily producing cough. Bronchoscopy not satisfactory. No tissue removed. X-ray findings grew more pronounced.

Diagnosis: Carcinoma of the right lower lobe. Lobectomy, by Dr. R. D. Churchill of Boston, was followed by apparent recovery.

Conclusions

Progress of cancer of the lung may be slow, but definite periods of improvement are usually lacking. Lung abscess and other suppurative conditions improve after periods of profuse expectoration. Physical examination shows some differences from findings usually seen in pulmonary tuberculosis which comprises the major portion of pathologic chests. Sputum examination is valuable in excluding tuberculosis and other infections. X-ray is of greatest value in diagnosis, particularly if oblique and serial plates are available. Bronchoscopy is helpful in a small percentage of endobronchial growths. Exploratory puncture with recovery of pleural fluid or broken down tumor, valuable. Negative puncture is also valuable if evaluation of the density of the tissue penetrated is carefully considered.

Pleural effusion contraindicates surgical removal.

ABSTRACT OF DISCUSSION

C. T. Burnett, M.D. (Denver): It is interesting that Dr. Giese should encounter eight cases of primary cancer of the lung during an ordinary period of a man's active work. Dr. Bronfin reported, in this Society two years ago, nine cases that he had encountered in the National Jewish Hospital during his lifetime.

Dr. Giese hasn't said anything about the increased incidence of primary cancer of the lung. Only a short time ago it was thought to be an exceedingly rare condition. Lord, in his book printed in 1925, found eight cases from the Massachusetts General Hospital in 4,704 autopsies. He had had eight cases in his private practice. In other words, a man with a very extensive practice in New England, very largely limited to pulmonary disease, had encountered only sixteen cases. Goltz, from the University of Minnesota, found that there were no cases reported prior to 1912. He notes a ten-fold increase since 1920.

Suffice it to say that for some reason cancer of the lung is a much more important clinical condition than it was a few years ago. No doubt the x-ray has helped us, because most of these cases are first diagnosed on the basis of x-ray without biopsy proof.

There may be some other factors. There has been a good deal of discussion as to why, aside from our diagnostic improvements, we may be encountering more primary carcinoma of the lung. Influenza, with the epidemic of 1918 and more recently, is thought by many to be a contributing factor. Other infections have been discussed. Some men feel that there is no relationship at all between tuberculosis and primary cancer of the lung. Certain it is that tuberculosis and cancer may coexist.

There are some possible chemical factors. One interesting observation is that coincident with the building of oiled roads such as we have out all through this mountain district and through the state and the nation, there has been an increase in primary cancer of the lung.

Another interesting observation is the fact that, so far, primary cancer of the lung has not been encountered in the same degree in the Orient, where tarred roads are not in use, as it is here. Military gassing may possibly be a factor.

Increased longevity has been advanced as a possible reason along with other diseases which we are finding occur when people live long enough to develop them. Probably improved diagnosis is of some important.

The diagnosis is still difficult because it is made often by bronchiectasis and pleural effusion.

J. A. Sevier, M.D. (Colorado Springs): There seems to be definite evidence that carcinoma of the lung is on the increase. This is probably a

relative increase. In the first place, we are looking for it more commonly. We are taking more chest x-rays as a routine procedure, and we are getting more autopsies.

Hill of Edinburgh, in a recent account, has reviewed the subject of carcinoma up to November, 1934, and he finds that 8 per cent of all the carcinoma at autopsy is carcinoma of the lung. That seems a high figure.

As to the diagnosis, there are several facts that are fairly well established. First, we know that it occurs most commonly in the fifth and sixth decades of life. I think the common age is from fifty to fifty-five. It is much more common in males than in females—80 per cent males.

There seems to be no predilection at all as to which lung it attacks nor is there any predilection for any particular lobe of the lung.

Pleural effusion occurs in 33 per cent of the cases and is practically always a bloody effusion. It is most commonly confused with tuberculosis, lung abscess, Hodgkins' disease, aortic aneurism and pleurisy with effusion.

Clinically, there are several points of importance. First is the pain—in the chest as a rule—and this pain tends to increase rather than to abate as the disease goes on. Occasionally there is prominence of the chest on that side.

If in addition there is evidence of pressure on the large vessels or pressure on the structures of the mediastinum in a patient with cough, shortness of breath and bloody expectoration from the beginning of the disease, we have a right to suspect cancer of the lung.

Also, if aneurism of the aorta can be fairly well ruled out and a bloody effusion is present, I think we have a fair right to assume that we are dealing with cancer of the lung. A positive diagnosis as to the nature of the tumor can only be made by detecting tumor shreds or so-called tumor cells in the sputum or in the effusion. Removal of a portion of this tumor by the aid of a bronchoscope of course will settle the situation as to the diagnosis—or the removal of a near-by infiltrated gland. Our greatest aids in diagnosis are bronchoscopy and x-ray.

C. F. Hegner, M.D. (Denver): I am glad that Dr. Giese emphasized the importance of the chronologic history of the case of primary carcinoma of the lung. Of course the symptoms depend upon the location of that tumor in its inception. Cough is a very important thing in the bronchia, but when we have parenchyma carcinoma it is strikingly absent. The character of the sputum is of course important.

First we have an irritated, non-productive cough; there is a glairy, viscid mucus and then possibly a prune juice sputum. In the parenchymal carcinoma we do not have the dominant cough as a symptom and it is surprising to know how long these people will remain comparatively well until the beginning of the complications which so confuse the diagnosis.

The diagnosis is made most likely from history. It is corroborated or confused by the x-ray until the middle of the course and it is absolutely confused by the complications late in the course.

The phenomena of the history, then, depend upon its location and its complication. That it is on the increase I am certain. Some years ago I spent some time with Dr. Sauerbruch; whenever he received a case from a certain section in Bohemia he always made a diagnosis of carcinoma and stuck to it until he proved it otherwise. That it is on the increase, relatively as well as absolutely, in this country I am convinced.

I saw a number of cases with the late Dr. Bronfin. I operated on some and removed pieces of tissue that were taken from cases of empyema that didn't get well, and the diagnosis was made before anything was deduced from the history.

DIAGNOSIS AND TREATMENT OF TRAUMATIC INJURIES OF INTRA-ABDOMINAL VISCERA*

JOHN BARON FARLEY, M.D.
PUEBLO

There is probably no diagnosis requiring more finesse or surgical acumen than the rapid differentiation in the diagnosis of the traumatized abdomen. Rapidity is important because all mortality statistics indicate that the longer surgical intervention is postponed, the more acutely rises the mortality rate. Yet the accurate decision as to whether the surgical abdomen is present can only be made after certain definite diagnostic steps have been taken. Both clinical and laboratory methods occupy a very definite place in offering aid to the surgeon in the determination of intra-abdominal pathologies; however, in our estimation, accurate observation, coupled with a keen clinical sense and truthful scientific interpretation, is definitely more important than any laboratory aid. All diagnostic methods used in their utmost still leave a very definite number of cases that will only be completely diagnosed following abdominal section or at the autopsy table.

That definite progress is being made in the treatment of such surgical conditions is very much evident by a study of the mortality statistics over a period of years. We find that prior to 1890 the mortality of these cases was about 90 per cent; by 1900 the mortality had fallen below 75 per cent; and early in 1920 many authors report a mortality of around 50 per cent. In the past few years Dean Lewis and Trimble, in reporting 140 cases of "subcutaneous ab-

*Read before the Spring Clinics of the Pueblo County Medical Society, April 29, 1936.

dominal injuries," show a mortality of 30 per cent.[1]

The usual classification of traumatic lesions of the abdominal viscera are open or penetrating wounds, and subcutaneous injuries—according to the mechanism of the traumatic force. The former is usually caused by stab or gunshot wounds, and the later is the result of blows to the abdominal wall or indirect violence. The difference in the treatment of these two types of injuries is quite marked, as is also the ease with which the accurate diagnosis is made. In the penetrating wound the severity of the injury is usually quite apparent, as is also the general direction of the underlying pathology. In subcutaneous injuries this is not the case—the injury varying as to the force and direction of the trauma. Inasmuch as this paper will deal primarily with subcutaneous injuries resulting from blows to the abdominal wall, suffice it to say in regard to penetrating wounds, that in the great majority of cases it is well to adopt the general policy of abdominal section with complete intra-abdominal exploration at the earliest possible moment.

Time-consuming methods of making a differential diagnosis of pathologies resulting from blows or direct violence to the abdomen should not be tolerated. Someone has reported sixty-one possible injuries to the intra-abdominal viscera. To attempt to differentiate the exact pathologies which may be found on abdominal section, while assuming the role of ultra-scientific surgery, in the last analysis may prove only pseudo-scientific insofar as the life of the patient is concerned.

It would hardly seem necessary to mention that the most important initial step toward diagnosis is to obtain as accurate a history as circumstances will permit, particular attention being given to the amount of force and the direction in which the force was applied.

The differential diagnosis between shock and hemorrhage is undoubtedly the most important and probably the most difficult. The blood count which is of great value here should be repeated at hourly intervals. While a high differential count helps very little in differentiating a peritonitis from an intraperitoneal or retroperitoneal hemorrhage in cases that have not been hospitalized soon after the injury, it is of extreme value and definitely does show that there is more than hysteria in a restless patient who is seen early and who has been thought to have been trivially injured. Primary shock is often mild following abdominal injuries; secondary shock is as severe and terrifying as the primary shock is mild. The differential count is of great value here because the blood changes appear quite early, sometimes several hours before the secondary shock.

It will perhaps be best to consider the different pathological entities in the order of frequency with which they occur: (1) Without doubt, mesenteric tears are most frequent in occurrence. (2) Next in order is retroperitoneal hemorrhage. Seldom does the surgeon open the traumatized abdomen without finding one of these two conditions, in addition to whatever other injuries it may contain. (3) Next in order comes liver tears, with or without damage to its ducts. (4) Injuries to the spleen and urinary bladder stand next in order to be closely followed by (5) injuries to the gastro-intestinal tract, the most common site of pathology being the lower jejunum and upper ileum. (6) Next in frequency comes the duodenum and stomach. (7) Last are the pancreas and colon. It is said that perforation of the colon due to non-penetrating trauma is so extremely rare that it is not listed in the "Index Medicus."[2]

Mesenteric injuries consist of tears and hematoma formation. The tears resulting in hemorrhage may require a simple suture or even resection of the bowel.

Retroperitoneal hemorrhage often requires no surgical treatment. As the pressure becomes increased the hemorrhage is arrested. However, there always remains the possibility of later abscess formation. The functions of the abdominal and lumbar sympathetic systems, lying retroperitoneally, are often embarrassed to the extent of giving a false typical picture of a ruptured viscus.

Injury to the liver, which is the most frequent of the large organs to be injured, generally results only in hemorrhage. This hemorrhage may be large or small, although at times when there is injury to the ducts there may be and generally is a resulting chemical peritonitis from the extrusion of bile. The size of the tear may vary from a small laceration a centimeter in size to the complete halving of the organ. In general the treatment consists of the close application of a vaseline tamponade to the bleeding areas. Suturing the organ is quite unsatisfactory because of mechanical difficulties. The old bugaboo of liver abscess resulting from tamponade was dispelled by Prey and Foster who found in going over fifteen years of autopsy records at Denver General that there was not a single case of liver abscess resulting from this treatment.[3]

The kidneys, which come next in the order of frequency, possibly hold their high place due to the ease with which the diagnosis is made. Squeezing of the kidney, or even a small tear, will often result in blood in the urine. A tear which penetrates into the calyx will of course produce a severe hematuria. Unlike severe injuries to those organs contained within the peritoneal cavity, in the case of kidney injury the conservative watchful waiting is strictly in order. The reparative and regenerative power of the kidney is almost unlimited. Hemorrhage from a ruptured kidney is rarely severe enough to require treatment on short notice unless the pedicle has been torn. Pressure that is produced within the perinephritic space will generally be sufficient to control the leakage. A frequent end result of large hemorrhages of the kidney is a perinephritic abscess. Lithiasis such as might prove dangerous to life should be regarded as a significant possibility.[4] Acquaintance with this fact is of the utmost importance forensically in the adjudication of personal injury suits.

More apparent than real is the protection afforded the spleen by the lower left ribs. Slight trauma will at times cause great damage to this organ. The spleen is definitely less elastic than either the liver or the kidneys, and the latter two are possessed of a tough limiting membrane, or capsule, which tends to make these organs more elastic. The limiting membrane of the normal spleen which is thin and friable, does not deserve the name of "capsule." Hemorrhage from the spleen may be terrifying, and in such cases the only efficient treatment is splenectomy. The vaseline tamponade may be used in small lacerations, but the danger of secondary hemorrhage should be borne in mind.

Urinary bladder injuries may generally be diagnosed with only the aid of the catheter, and they may certainly be confirmed by the use of the cystoscope. Severe pain over the region of the bladder coupled with a bloody urine or the inability to withdraw urine is almost pathognomonic of tear. While these tears usually allow the urine to enter the peritoneal sac, it should not be forgotten that they may also lead into the retroperitoneal space. Immediate surgical repair is indicated in either condition, and in the exact localization lies the value of the cystoscope.

Lower jejunum and upper ileum injuries, as well as any other gastro-intestinal perforation, are possibly best diagnosed with the aid of the x-ray which shows free air in the peritoneum. Clinically this is manifested by hepatic resonance. Treatment varies according to the size of the perforation which may require a simple suturing or an extensive resection.

Duodenum and stomach injuries as well as bladder injuries were shown by Reed in 1933 in a very conclusive manner to occur only when these organs are distended.[5] Therefore, the history of eating or drinking just prior to injury is of the utmost importance. The bursting of the full stomach or duodenum produces a squirting of the contents throughout the peritoneal cavity, which causes at the moment of injury a generalized peritonitis of both septic and chemical nature. Such a patient is in immediate severe shock with a rigid, tender upper abdomen which is enormously distended. Massive hemorrhage from the liver or spleen will often give much the same picture as a fulminating chemical peritonitis, but because

laporatomy is indicated for either hemorrhage or peritonitis, the need of delay for extensive blood study seems unnecessary and time-consuming.

That the pancreas is an extremely well-protected organ and that it is seldom injured is shown in a report of 9,500 autopsies at the Pathological Institute of Leipsig over a period of seven and one-half years in which only one grossly visible rupture of the pancreas was found. Stern, after a most diligent search, did find 100 reported cases; of these, only twenty-eight existed without associated injuries of other viscera.[6] It might almost be said that when there is an injury sufficient to produce a rupture of the pancreas the other visceral injuries will be so severe as to make recovery almost a miracle. However, should a patient with a pancreatic rupture recover he may be cheered by the fact that Umber reports that there is no relation between true diabetes mellitus and pancreatic trauma.[7]

When to operate is an extremely interesting question—and the most difficult to answer. Watchful waiting assumes the proportion of a diabolic temptation in the light of a survey on its disastrous effect on the mortality rate. When we consider that it may be dogmatically preached that all cases of a perforating lesion of the gastro-intestinal tract, all massive hemorrhages of the liver or spleen, and all tears of the urinary bladder must be operated to live, it seems but a natural conclusion that once the primary shock is under control, the sooner the better. If one or more hours of efficient shock treatment with its stimulants and fluids have passed and the patient remains restless and anxious, with a rapid and feeble pulse and a subnormal temperature; if the extremities and tongue remain cold; with the abdomen that is rapidly becoming rigid and is tender to the slightest palpation; and if there is resonance in the hepatic region, and possibly iliac or flank dullness; or if neither urine nor flatus has been passed —with these findings or with a majority of them, providing the systolic pressure has begun its climb following the primary shock and is now hovering around 85 or above, the verdict then would be that the operation should be performed without waiting for other symptoms.

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CASE REPORTS

UNDULANT FEVER

G. ALBERT MOREHOUSE, M.D.
DENVER

This case is presented not as a rare disease which seldom occurs in Colorado but, on the contrary, as a disease which is perhaps relatively common but frequently overlooked. Undulant fever is a reportable disease in Colorado and yet only one case was reported to the State Board of Health in 1935. There have probably been several cases diagnosed in which there has been a failure to make a report. Dr. Hardy in a report on undulant fever in Iowa called attention to the fact that in his study of thirty-eight cases, only ten had been suspected by the attending physicians and the other twenty-eight were discovered in the routine laboratory procedures of the state hospital.

This case is presented as a reminder that undulant fever is present in this vicinity and to demonstrate the ease by which the diagnosis may be mistaken for the ordinary influenza or bronchitis of which we are seeing a large number of cases. This case also demonstrates the difficulties which one may

have in trying to discover the source of infection.

CASE REPORT

E. D., aged 22, a student nurse at Children's Hospital in Denver, was admitted to the hospital as a patient March 3, 1936, with the following complaints:

1. Headache—began on the morning of day of admission.
2. Sore throat—began on morning of day of admission.
3. Cervical adenitis and swelling over left parotid gland. This closely resembled the mumps which she had had on right side several years ago.
4. Fever—101° on admission.
5. Weakness—began about one week ago.
6. Perspiration—excessive with bad odor.
7. Cough—present for several months, but has just become severe.
8. Nose bleed—frequent since coming to Colorado seven months ago.

Family history is entirely normal except that father has an esophageal stricture at cardiac end of stomach.

Past history reveals that patient was born in Kansas and lived there all her life until coming to Colorado seven months ago to start nursing training. She is the oldest child in a family of four and worked as a girl in her father's grocery store. She has a high school education. Habits are normal. Menstrual history is normal. Patient has had measles, mumps (unilateral), chicken pox, whooping cough, scarlet fever, small pox, pneumonia and influenza. She had a tonsillectomy at nine years and an appendectomy two years ago.

On physical examination, skin was hot but moist with perspiration. Feet were wet and cold. Breath sounds were rough on both sides of chest. Pharynx was mildly injected and there was a mild cervical adenitis with some swelling over left parotid gland. Physical examination was otherwise negative.

Laboratory reported a normal urine with exception of a few red blood cells (menstruating). Throat culture showed pneumococcus and usual flora. Blood count: hb., 77 per cent; red blood cells, 4,680,000; white blood cells, 12,800; polymorphonuclears, 57 per cent; lymph., 43 per cent.

Diagnosis: Mumps was considered as one of first possible diagnoses (known exposure) until more data was obtained when it was decided that patient most likely had bronchitis or perhaps influenza. She was placed on salicylates and given symptomatic treatment.

Course in Hospital: Patient remained in hospital six days. On the third day she complained of earache which lasted for two days. On the fourth day, the patient began to have a little pain in the chest which continued up to time of dismissal. Temperature reached a high and low point daily for four days between 97° and 100°. Temperature would evidently have been considerably higher without salicylates. At time of dismissal, patient still had perspiration, weakness and cough. Soreness of throat had improved and temperature was normal. Marked constipation was noted during hospitalization. Patient was discharged to the nurses' home and further studies were to be made through the clinic.

Patient was seen in Nurses Clinic on March 9, at which time she presented definite symptoms of loss of weight, cough, night sweats, weakness and substernal pain on left side of chest. X-ray of chest was reported as negative for tuberculosis. Tuberculin test with one hundredth milligram was negative. This was later reported negative when one-tenth milligram was used. Sputum was reported as containing numerous streptococci but no evidence of tuberculosis.

Patient was readmitted to hospital on evening of March 10, complaining of chills, nausea, severe headache, and severe abdominal pain in right upper quadrant over gallbladder region. On physical examination, face was flushed and patient appeared toxic and acutely ill. There was tenderness along right costal margin but no rigidity. Examination was otherwise essentially negative. Laboratory reported a normal urine analysis. Blood count showed hb., 77 per cent; red blood cells, 4,680,000; white blood cells, 21,600; polys., 61 per cent, and lymph., 36 per cent. Icterus index was reported as 2.4. X-ray flat plate of abdomen was negative. Patient was seen by medical consultant who felt that condition was probably due to chest pathology and that abdominal pain might be due to diaghragmatic pleurisy. Treatment consisted of local heat, salicylates, sedative cough mixture, and partial immobilization of chest with adhesive.

Abdominal pain gradually became more severe and spread to both sides of upper abdomen. On a few occasions morphine was required to relieve the pain. On March 19, patient started a vomiting attack which lasted for two days. Surgical and gynecological consultations at this time reported negative findings.

Agglutination tests for undulant fever were ordered on March 18 and three days later were reported as positive in dilutions up to 1-160. Tests were repeated with similar results. A specimen was then sent to the state laboratory requesting agglutination tests for undulant fever, typhoid and tularemia. The former was reported positive in the same dilutions as mentioned above and the latter two were reported as negative.

Patient began to complain of severe joint pain in left knee joint on March 22. This pain continued for about one week but at no time could any swelling of joint be determined. Chest pain disappeared but abdominal pain continued at frequent intervals. Liver edge became palpable below costal margin and area of splenic dullness increased, although a palpable spleen could never be definitely determined. After the first four days, temperature remained one to two degrees subnormal. Urine has remained normal. White blood count has varied from 13,000 to 18,000. Differential count has remained normal to slightly high in lymphocytes. Patient was kept in bed and treated as a convalescent typhoid case.

Discussion

1. Source of infection: Patient had been living at hospital for six months and had eaten nothing outside of hospital except ice cream and malted milks. These have been eaten in many different parts of the city and all of these should have been made from pasteurized milk. On these occasions the patient was usually accompanied by her sister. The sister has no symptoms of any

disease. It is interesting to note that the patient never drank milk until after becoming ill.

2. Reasons why undulant fever was suspected: Tests were made because of continuance of marked perspiration with peculiar foul odor, marked weakness, a high white blood count without any increase in polys, and a subnormal temperature which might be the afebrile portion of an undulating temperature.

3. Differential Diagnoses: Diagnoses of undulant fever without laboratory aid is very difficult, especially when one does not have the disease in mind when he sees the patient.

In this case the following diagnoses were considered: Mumps, bronchitis, influenza, early pneumonia, and acute gallbladder pathology. It has been pointed out that undulant fever may be somewhat comparable to influenza engrafted upon a case of typhoid fever.

X-RAY THERAPY IN CANCER

Currently there are three methods of treating cancer by x-ray therapy. One is with massive doses of radiation, another the saturation method, and the third a divided protracted dose method.

In the massive dose method only one, or not more than a few doses, are given to the area being treated. Frequently the area treated is large. The advocates of this method usually give large enough doses to produce marked skin changes. The object is to produce as much destruction in the tumor as is compatible with the life and repair of the adjacent normal tissues. Post radiation nausea, vomiting, anorexia and diarrhea following massive dosage are usually rather severe and the total amount of irradiation which can be delivered to the tumor without permanent destruction of normal tissue is less than with either of the other two methods.

With the saturation method it is customary that a large initial dose, i. e., one up to the normal tolerance of a single dose be given and then this dose is followed by small daily doses which supplement the initial irradiation. The small or saturation-maintaining doses are given over a variable, but long period of time.

The divided protracted dose method employs doses of moderate size. With this method the same amount of irradiation is employed over and over again with daily or twice daily treatments, until the tolerance of repair of normal structures is reached. This method has been highly advocated by Henri Coutard, Chief of Service of Roentgen Therapy, Institute of Radium of Paris. "Coutard therapy" is a term rather loosely used in reference to either the method originally decribed by him, or any of its numerous modifications commonly used in the large centers of radiation therapy.

Most experienced therapists now agree that dosage sufficient to control or destroy malignant new growths must be large enough to produce skin changes. It is at least large enough to cause pigmentation and usually large enough to produce a superficial destruction or lysis of the skin (epidermolysis). It is also agreed that a multiplicity of portals is advantageous in achieving a large tumor dose of radiation without producing excessive or irreparable injury to normal tissue. By the use of numerous portals with the central beam of x-ray directed into the tumor region (cross fire), it is possible to give the tumor much more irradiation than that received by any one skin surface.

The x-ray treatment of cancer may be for cure, palliation or prophylaxis. For cure, very large doses may be given to the tumor. For palliation the dosage may be restricted to amounts found sufficient to relieve pain or known to be useful in the prevention of fungation. Prophylactic radiation, or radiation to areas in which cancer is not known to be present, is of debatable value, but at least is a contemporarily acceptable procedure. There has been some experimental work showing that the incidence of cancer invasion or recurrence in irradiated areas is less than in non-irradiated regions. The feeling of the profession in general is that these sequellae are at least retarded after irradiation.

During recent years there has been improvement in the results of cancer therapy when irradiation is properly used either alone or in conjunction with surgery. There is today a growing appreciation of the quality of x-ray energy used in therapy. The effects of variations in voltage and in filtration are becoming more intelligible. The measurement of quantity is internationally standardized in a physical unit of ionizing power, the roentgen. Advances are being made in the understanding of biological measurements and effects. International radiation experience with different quantities, qualities and rates of administration is becoming more and more available to all therapists. It is already obvious that just as surgery must be adequate, irradiation must be adequate for progress in the cure of cancer.

P. R. W.

Program

Sixty-sixth Annual Session, Colorado State Medical Society, Glenwood Springs, Colo., Sept. 9, 10, 11, 12, 1936

Official Call

To the Officers, Delegates, Committeemen and Members of the Colorado State Medical Society—Greeting:

The Sixty-sixth Annual Session of The Colorado State Medical Society will be held at the Hotel Colorado, Glenwood Springs, Colorado, Wednesday to Saturday, inclusive, September the Ninth, Tenth, Eleventh, and Twelfth, Nineteen Hundred and Thirty-six.

The Board of Trustees will convene at Three P.M., the Board of Councillors at Five P.M., and the House of Delegates at Eight P.M., all on Wednesday, September the Ninth, and each subsequently as ordered.

The General Scientific Assembly will convene at Ten A.M., Thursday, September the Tenth and subsequently according to the program of the Committee on Scientific Work.

Walter W. King, M.D.,
President.

Denver, Colorado,
July the Twentieth,
Nineteen Thirty-six.
Attest:
Harvey T. Sethman,
Executive Secretary.

CONDENSED SCHEDULE

NOTE: Unless otherwise specified, all meetings will be held in the HOTEL COLORADO, at Glenwood Springs.

WEDNESDAY, SEPTEMBER 9

8:00 a. m. until finished—Installation of Exhibits.
2:00 p. m.—Registration opens. (8:30 a. m. to 5:00 p. m. each following day.)
3:00 p. m.—Board of Trustees, quarterly meeting.
5:00 p. m.—Board of Councillors, first meeting of Annual Session.
7:00 p. m.—Committee on Credentials.
8:00 p. m.—House of Delegates, first meeting of Annual Session.

THURSDAY, SEPTEMBER 10

9:00 a. m.—Clinico-pathological Conference.
10:00 a. m. to 12:00 noon—General Meeting.
12:15 p. m.—Round Table Luncheon.
1:30 p. m.—Demonstrations by Exhibitors.
2:00 p. m. to 5:00 p. m.—General Meeting.
5:00 p. m.—House of Delegates, second meeting.
5:00 p. m. to 6:00 p. m.—Social Hour.
8:00 p. m.—Stag Smoker, place to be announced later.

FRIDAY, SEPTEMBER 11

9:00 a. m.—Clinico-pathological Conference.
9:00 a. m.—House of Delegates, third meeting.
10:00 a. m. to 12:00 noon—General Meeting.
12:15 p. m.—Round Table Luncheon.
1:30 p. m.—Demonstrations by Exhibitors.
2:00 p. m.—Annual Golf Tournament; Hotel Colorado Golf Course.
2:00 p. m. to 4:15 p. m.—General Meeting.
4:30 p. m.—Swimming Party; Outdoor Pool.
6:30 p. m.—Informal Dinner to County Secretaries by Board of Trustees.
8:00 p. m.—Joint Meeting of Society and Auxiliary.

SATURDAY, SEPTEMBER 12

9:00 a. m.—Clinico-pathological Conference.
9:00 a. m.—House of Delegates, fourth meeting.
10:00 a. m. to 12:00 noon—General Meeting.
12:15 p. m.—Round Table Luncheon.
1:30 p. m.—Demonstrations by Exhibitors.
2:00 p. m. to 4:45 p. m.—General Meeting.
5:00 p. m. to 6:00 p. m.—Social Hour.
6:00 p. m.—President's Reception.
7:00 p. m.—Annual Banquet.
10:00 p. m.—Annual Dance.

PROGRAM OF GENERAL MEETINGS

THURSDAY, SEPTEMBER 10

MORNING

9:00—Clinico-pathological Conference.—Thad P. Sears, M.D., Denver, Committee on Scientific Work, presiding.
Conference Team: A. M. Mullett, M.D.; G. Burton Gilbert, M.D., and J. B. Crouch, M.D., Colorado Springs.
These conferences on Thursday, Friday, and Saturday mornings, will each consist of case presentations with post-mortem findings, presented by clinicians, roentgenologists, and pathologists. The case histories, with significant physical findings, laboratory data, etc., will be presented by the clinicians, x-rays by the roentgenologists. There will be discussion of the differential diagnosis. The pathologist will demonstrate post-mortem findings both with actual gross morbid specimens and with photomicro-

graphs. Time will be allowed for questions and discussion by the audience.

10:00—Opening of General Scientific Assembly.—Call to order by Walter W. King, M.D., Denver, retiring President; Installation of Arthur J. Markley, M.D., Denver, as President of the Society.

10:05—Observations on 100 Cases of Appendicitis.—N. L. Beebe, M.D., Fort Collins.

Review of principal symptoms, laboratory data, operative findings, pathologist's reports, missed diagnoses, complications, and causes of death in the fatal cases. Lessons to be drawn from this study.

10:20—The Price "Coffer Dam" Pack in Acute Appendicitis.—Haynes J. Freeland, M.D., Denver.

Recommendation of immediate operation and removal of appendix in all cases. In abscess with or without general peritonitis, use of the coffer dam with adequate drainage, elevation and support of ileocecal segment. Use of continuous duodenal siphonage. Evaluation of factors contributing to mortality.

10:35—Discussion of papers of Drs. Beebe and Freeland.

Opened by Lanning E. Likes, M.D., Lamar, and W. W. Haggart, M.D., Denver.

10:45—Diagnosis and Treatment of Peripheral Vascular Disease.—A. W. Metcalf, M.D., Denver.

Results obtained with Paevex during one and one-half years in Buerger's disease and arteriosclerosis. Uses of Dermatherm. The oscillometer and its diagnostic value. Case report of spinal cord tumor. Sympathectomy, with case reports.

11:00—Clinical Indications and End Results of Sympathectomy.—M. C. Jobe, M.D., Denver.

Anatomy and physiology of the sympathetic or autonomic nervous system. A historical review of the research, followed by an exposition of the surgery of the sympathetic. Role of the sympathetic nervous system in certain pathological conditions, with description of available tests and indications for sympathetic ganglionectomy.

11:15—Discussion of papers of Drs. Metcalf and Jobe.—Opened by Joseph R. Plank, M.D., Denver.

11:30—The Syphilis Problem; How Shall We Meet It?—Harold N. Cole, M.D., Cleveland, Ohio (Guest).

"Why don't we stamp out syphilis?" asks the Surgeon General of the U. S. Public Health Service. It is one of the four great killing diseases. Why not conduct a public campaign? The reign of silence must be broken. Need of educating the physician; special courses in medical schools; value of routine Wassermann. Let medical profession take the lead in campaign to "STAMP OUT SYPHILIS!" Suggested outline for treatment.

12:00—Recess.

12:15—Round Table Luncheon (Special Dining Room).—A. C. Sudan, M.D., Kremmling, Vice President, Presiding.

An informal general discussion of syphilis, with questions from the audience, led by Dr. Harold N. Cole.

AFTERNOON

1:30—Demonstration by Exhibitors.—Herman C. Graves, M.D., Grand Junction, Vice President, Presiding.

This time is set aside each afternoon for those exhibitors who desire to give a brief description and demonstration of their exhibits. Appropriate time will be allotted each exhibitor.

2:00—Presidential Address.—Arthur Jackson Markley, M.D., Denver. (Leo W. Bortree, M.D., Colorado Springs, Vice President, Presiding.)

2:30—Chronic Headache.—Paul A. Draper, M.D., Colorado Springs.

The omnibus term "chronic headache" is considered under four general etiologic headings: toxic, circulatory, local, and reflex.

2:45—Discussion.—Opened by J. R. Jaeger, M.D., Denver.

3:00—Verruca, With Description of a Recently Introduced Treatment.—Jack G. Hutton, M.D., Denver.

Etiology and frequency of occurrence. Types: juvenile, verruca vulgaris, filiform warts, verruca plantaris, venereal warts. Efficient methods of treatment: spontaneous disappearance, surgical removal, local applications, electrical removal, radiation therapy, and a new injection treatment.

3:15—Discussion.—Opened by John V. Ambler, M.D., Denver.

3:30—Etiology, Symptoms, and Treatment of Delirium Tremens.—J. P. Hilton, M.D., Denver.

1. History, prevalence. 2. Etiology: alcohol; precipitating factors such as pneumonia, surgery, shock, accidents. 3. Symptomatology, both physical and mental. 4. Psychopathology of the disorder. 5. Treatment: Importance of inducing sleep, drugs to be used; spinal drainage and when to use it. 6. Results.

3:45—Discussion.—Opened by Capt. E. H. Parsons, M.C., U. S. A., Fitzsimons General Hospital, Aurora.

4:00—New Methods in the Treatment of Pneumonia.—John I. Zarit, M.D., Denver.

Treatment of pneumonia has lagged behind general therapeutic advances in medical science. New conceptions to be discussed are: 1. Medical shock, connotes for the internist the equivalent of surgical shock. 2. Serum therapy, valuable therapeutic adjuncts to a selective group. 3. Artificial

pneumothorax, indications, contraindications, appraisal of its potentialities.

4:15—Discussion.—Opened by John B. Crouch, M.D., Colorado Springs.

4:30—Unusual Complications in Hernia Operations.—Raynor E. Holmes, Sr., M.D., Canon City.

A review of some twenty cases of hernia complicated by activation of latent gonorrheal infection. Conduct of the cases.

4:15—Discussion.—Opened by Harold T. Low, M.D., Pueblo.

5:00—Adjournment.

FRIDAY, SEPTEMBER 11

MORNING

9:00—Clinico-pathological Conference. — Atha Thomas, M.D., Denver, Committee on Scientific Work, Presiding.

Conference Team: James S. Orr, M.D., Fruita; Harvey M. Tupper, M.D., and E. H. Munro, M.D., Grand Junction.

(See description of this conference under Thursday morning program.)

10:00—Interrelation of Surgical and Medical Care in the Treatment of Biliary Tract Disease.—Herbert A. Black, M.D., Pueblo.

Gallbladder surgery deals with end results of imperfect metabolism or chronic infection. Without correction of the underlying factors requiring operation, the end results of biliary tract surgery leave much to be desired. Diet is the most essential factor in the medical care and this applies equally to post-operative care of the surgical case and the treatment of the case which is considered non-surgical.

10:15—Discussion.—Opened by Frederic Singer, M.D., Pueblo.

10:30—Current Activities of the State Board of Medical Examiners.—Vardry A. Hutton, M.D., Florence.

A report of the work of the Board during the past two years, covering matters of special interest to the Medical Society. Emphasis is laid upon suppression of illegal or unlicensed practitioners, with funds from the annual registration fee. Reference to pertinent points of law, physicians admitted, licenses revoked, malpractice, and discussion of Board finances.

10:45—Discussion.—Opened by Gerald B. Webb, M.D., Colorado Springs.

11:00—Public Health and Medical Aspects of the Social Security Law in Colorado.—M. F. Haralson, M.D., Surgeon, United States Public Health Service (Guest).

With a description of the State Health Department's present organization, the paper proposes changes based on the modern conception of an ideal department, especially with relation to the Social Security Act. This Act and its program will be discussed under the headings of Public Health Work, Maternal and Child Health Activities, and Medical Services for Crippled Children. The author recently completed a year as Acting Secretary and Executive Officer of the State Board of Health.

11:30—Relationships Between the Practicing Physician and the Public Health Worker. —W. W. Bauer, M.D., Chicago, Director of the Bureau of Health and Public Instruction, American Medical Association (Guest).

This paper will develop the thesis that preventive and curative medicine are closely allied and in many instances overlap. It will point out that curative medicine does not fit well into the program of a health department while, on the other hand, preventive medicine can be made to fit very well into the private practice of medicine. Examples of medical participation plans in public health work will be cited.

12:00—Recess.

12:15—Round Table Luncheon (Special Dining Room).—John W. Amesse, M.D., Denver, Chairman, Advisory Committee to the Board of Health, presiding.

An informal general discussion of public health relationships, with questions from the audience, led by Drs. Bauer and Haralson.

AFTERNOON

1:30—Demonstrations by Exhibitors.—Clarence W. Bixler, M.D., Erie, Vice President, Presiding.

This time is set aside for those exhibitors who desire to give brief descriptions and demonstrations of their exhibits. Appropriate time will be allotted each exhibitor.

2:00—Septic Complications of Sore Throat.—Herman I. Laff, M.D., Denver.

Death following acute tonsillitis or pharyngitis vaguely designated "septic sore throat," "streptococcic tonsillitis," or "cryptogenetic septicemia," has baffled the physician who did not understand its pathogenesis. The underlying pathology is here set forth, also importance of early treatment. Case reports.

2:15—Medical Treatment of Upper Respiratory Infections.—Dumont Clark, M.D., Denver.

The common cold best treated by the general practitioner. It is divided into the true cold or virus disease of Dochez, and a rhinitis which is simply one manifestation of a sinusitis. Treatment and results of four years' study are given, indicating improvement in the chronic disorders is not permanent and cannot be until the common cold which is produced by a virus is brought under control.

2:30—Discussion of papers of Drs. Laff and Clark.—Opened by Frank R. Spencer, M.D., Boulder.

2:45—Endoscopy; An Aid in Diagnosis.—E. B. Swerdfeger, M.D., Denver.

While it has made considerable progress, endoscopy has not been employed to the extent it deserves, by reason of the expense of the equipment, the skilled technic, and trained teamwork involved. Advances in endoscopy as shown by Clerf and Chevalier Jackson. Its use in diagnosis and its replacement of surgery.

3:00—Discussion.—Opened by Harold L. Hickey, M.D., Denver.

3:15—Pain and Pain Equivalents in Heart Disease.—Clough T. Burnett, M.D., Denver.

Differentiation of angina pectoris and coronary artery disease from noncardiac clinical conditions. Etiological factors, especially heredity, occupation and temperament, and the more acceptable theories as to the cause and mechanism of pain production. Importance of associated symptoms and physical and electrocardiographic signs. Prognosis and causes of death. Management of this group of conditions.

3:30—Discussion.—Opened by S. W. Schaefer, M.D., Colorado Springs.

3:45—Normal Standards for Red Blood Cell Values in Colorado.—E. R. Mugrage, M.D., Denver.

Values in the literature for the red cell count, hemoglobin content, and per cent of cell volume of the blood of a normal person have been obtained at low altitudes. Variations of altitude alter these standards. No values for the healthy individuals of Colorado and neighboring states have heretofore been available. New figures have been determined on eighty normal adults and 533 infants and children, of both sexes.

4:00—Discussion.—Opened by Carl W. Maynard, M.D., Pueblo.

4:15—Adjournment.

4:30—Swimming Party, Hotel Colorado's outdoor pool.

EVENING

8:00—Joint Meeting, Medical Society and Auxiliary.—W. W. Crook, M.D., Glenwood Springs, Chairman, Committee on Arrangements, Presiding.

Detailed program to be announced later.

SATURDAY, SEPTEMBER 12

MORNING

9:00—Clinico-pathological Conference.—Philip Hillkowitz, M.D., Denver, Chairman, Committee on Scientific Work, Presiding.

Conference to be conducted by members of the staff of the Colorado General Hospital.

(See description of this conference under Thursday morning program.)

10:00—Carcinoma in Clinically Benign Prostatic Hypertrophy.—George M. Myers, M.D., Pueblo.

Analysis of cases operated in the past fifteen years which prior to operation were presumed to be benign prostatic hypertrophy. Findings at operation and careful pathological examination revealed a surprisingly high per cent of early carcinoma present. Importance of complete removal and danger of partial removal. Follow-up reports on these cases.

10:15—Discussion.—Opened by John B. Davis, M.D., Denver.

10:30—Blood Dyscrasias in Children.—John W. Amesse, M.D., and W. W. Barber, M.D., Denver.

Confusion concerning the etiology and the classification of blood dyscrasias is being cleared up through a different approach. The conception is gaining ground that many such affections are not independent diseases but constitute a clinical response to stimuli intrinsic or extrinsic or a combination of both, and to which the organism reacts in a characteristic fashion. Of immediate concern to the general practitioner are those deviations which may be encountered at any time or in any age period. Case reports.

10:45—Discussion.—Opened by Emeric I. Dobos, M.D., Denver.

11:00—Epiphyseal Injuries.—George K. Cotton, M.D., Denver.

Fractures in children frequently occur near the joint and involve the epiphyses. The anatomy and physiology of the epiphyses are given, especially in reference to their circulation. Radiographic appearance before and after injury to illustrate the necessity of a guarded prognosis. Conservative and operative treatments for various type of injuries.

11:15—Discussion.—Opened by J. Sims Norman, M.D., Pueblo.

11:30—Surgical Shock From Burns, Freezing, and Similar Traumatic Agents.—Henry N. Harkins, M.D., Chicago (Guest).

Correlated laboratory experiments and clinical observations indicate that surgical shock is an important factor in early death from burns. The presence of shock is significant because its therapeutic implications are clear. Discussion is made of a series of burn patients treated by tannic acid. The effect of tannic acid in preventing fluid loss and resultant shock is described. Experiments indicated that loss of plasma-like fluid in amounts hitherto unrealized is present in other conditions. Freezing is an example in kind. Low body temperatures following freezing are mentioned. Benefits of gradual warming up of frozen limbs as opposed to rapid thawing are discussed. Finally, the effects of chemical and electrical agents in producing shock are described. It is pointed out that the injury produced by all these external agents, thermal, chemical, or electrical, may produce a general condition of shock as well as the evident local trauma. The treat-

ment of shock is often as important as that of the local lesion and is essentially similar in all instances.

12:00—Recess.

12:15—Round Table Luncheon (Special Dining Room).—R. B. Porter, M.D., Glenwood Springs, Committee on Arrangements, Presiding.

An informal general discussion of shock from traumatic agents, with questions from the audience, led by Dr. Henry N. Harkins.

AFTERNOON

1:30—Demonstrations by Exhibitors.—Warren H. Twining, M.D., Aspen, Committee on Arrangements, Presiding.

This time is set aside each afternoon for those exhibitors who so desire to give a brief description and demonstration of their exhibits. Appropriate time will be allotted each exhibitor.

2:00—Report of the Committee on Necrology.—A. C. McClanahan, M.D., Delta, Chairman.

2:10—Summary of Actions of the House of Delegates.

2:20—Installation of Newly-elected Officers.

2:30—Hypothyroidism Without Myxedema.—Jesse W. White, M.D., Pueblo.

A review of the literature showing the frequency of low basal metabolic rates and the symptoms associated therewith. The author's experience based on 1,151 B.M.R. tests of which 308 were below minus ten. Discussion of those cases which show no myxedema.

2:45—Hypothyroidism.—Paul J. Connor, M.D., and F. Julian Maier, M.D., Denver.

After a brief historical introduction there is a description of the symptoms at the respective ages of infancy, childhood, and adult life, followed by a discussion of hypoglycemia, the metabolism of fat, proteins, salts and water, as well as of iron in hypothyroidism, concluding with the treatment of this condition.

3:00—Discussion of Papers of Drs. White, Connor and Maier.—Opened by T. D. Cunningham, M.D., Denver.

3:15—Intrathoracic Goiter.—George B. Kent, M.D., and Kenneth C. Sawyer, M.D., Denver.

Critical analysis of the authors' own group of goiter cases brought out many interesting facts, not the least of which is the proper diagnosis and management of the cases complicated by a partial or complete extension of the goiterous tumor mass into the thoracic cavity. The probable cause and prevention are presented and simple classification given. The proper diagnosis and treatment are brought out as well as the most frequent complications before and after operation. Technic of removing the tumor from the thorax.

3:30—Discussion.—Opened by M. O. Shivers, M.D., Colorado Springs.

3:45—The Anxiety Syndrome; An Everyday Problem of General Medicine Frequently Confused with Hyperthyroidism.—E. G. Billings, M.D., Denver.

The symptom constellation termed "anxiety syndrome" is the most frequent psychiatric problem. The physiologic manifestations are frequently confused with those of hyperthyroidism. This study is based on more than 1,000 cases and comprises a brief historical sketch, discussion of the etiology and development, differential diagnosis, and treatment available to the general practitioner.

4:00—Discussion.—Opened by Franklin G. Ebaugh, M.D., Denver.

4:15—Clinical and Experimental Investigations of Protamine Insulinate at Colorado General Hospital.—James J. Waring, M.D.; Bernard B. Longwell, M.D., and Abe Ravin, M.D., Denver.

Approximately twenty-five patients have been treated with various combinations of regular insulin and protamine-insulin. Experimental work shows the long-continued effect of the protamine-insulin when given subcutaneously and that its action is no different from regular insulin when given intravenously. Detailed experiments on diabetic patients and on normal animals are reported.

4:30—Discussion.—Opened by Robert C. Lewis, Ph.D., Denver.

4:45—Adjournment.

EVENING

6:00—President's Reception.

7:00—Annual Banquet—A. C. McClanahan, M.D., Delta, Toastmaster.
Program to be announced later.

10:00—Dancing.

HOTEL RATES AND RESERVATIONS

Headquarters for all convention activities this year will be the Hotel Colorado at Glenwood Springs. This hotel has ample accommodations for virtually all who will attend the Annual Session, but as is always the case, "first come, first served" will apply, so early reservations will obtain the most attractive rooms. Reservations should be made direct with the Hotel Colorado.

European Plan rates will apply throughout, and all rooms in the hotel will be covered by the following rate schedule:

Twin-bed double room, with private bath: $3.00 per person per day.

Twin-bed double room, with connecting bath: $2.50 per person per day.

Two in room, double bed, with private bath: $2.50 per person per day.

Two in room, double bed, with connecting bath: $2.00 per person per day.

Twin-bed double room, without bath: $1.75 per person per day.

Two in room, double bed, without bath: $1.50 per person per day.

Single room, with private bath: $3.50 per day.

Single room, with connecting bath: $3.00 per day.

Single room, without bath: $2.00 per day.

Meal Rates

Coffee Shop: Club breakfasts, $.50 to $.60, also a la carte. Club Luncheon, $.50, also a la carte. Table d'hote Dinner, $.75, also a la carte.

Main Dining Room: Breakfast, $1.00; Luncheon, $1.00; Dinner, $1.25.

RAILROAD SCHEDULES AND RATES

The distance of Glenwood Springs from Eastern Slope centers and the attractive new railroad schedules and round-trip rates will attract many members of the Society this year to rail transportation to and from the Annual Session.

Round-trip fares from Denver, Colorado Springs, or Pueblo to Glenwood Springs and return, good for ten days, will be $5.00 for coach travel, or $7.50 for standard tickets. For those traveling at night, the lower berth Pullman fare will be $2.50, and the upper, $2.00. For day-time travel the Pullman seat fare will be 95c via the Moffat Tunnel route, or $1.25 via the Royal Gorge from Denver. Except for this latter, all the rates and tickets are interchangeable as to the route. The Denver and Rio Grande Western Railroad has promised to provide whatever extra cars may be needed to handle Medical Society groups to and from Glenwood.

If fifteen or more persons wish to use the new night train (The "Mountaineer," Train No. 19) leaving Denver at 7:45 p. m., a special sleeper will be added and will be set off at Glenwood when the train arrives there (2:55 a. m.) so that the passengers may arise at any hour they desire in the morning.

Schedules of the principal trains follow (Trains Nos. 5, 6, 19, and 20 follow the Moffat Tunnel-Dotsero Cut-off Route):

To Glenwood Springs

Train No.	Lv. Denver	Lv. Colo. Spgs.	Lv. Pueblo	Ar. Glenwood
1	8:00 a.m.	10:00 a.m.	11:15 a.m.	7:25 p.m.
5	4:00 p.m.	.....	.....	10:04 p.m.
15	7:30 p.m.	9:45 p.m.	11:15 p.m.	8:50 a.m.
19	7:45 p.m.	.....	.....	2:55 a.m.

From Glenwood Springs

Train No.	Lv. Glenwood	Ar. Pueblo	Ar. Colo. Spgs.	Ar. Denver
2	9:24 a.m.	4.05 p.m.	5:15 p.m.	8:30 p.m.
6	7:59 a.m.	.....	.....	2:05 p.m.
16	4:58 p.m.	3:50 a.m.	5:15 a.m.	7:45 a.m.
20	11:40 p.m.	.....	.....	6:15 a.m.

STAG SMOKER

Every member of the Society must desert his wife for one evening of the Annual Session! That is the evening of the Stag Smoker—but don't worry about Her; the Auxiliary is planning a simultaneous card party and promising her such a good time that she won't even miss her husband. The Smoker will be held, like last year, on Thursday evening, September 10. Dr. Robert Porter of Glenwood Springs is in charge. Nuf sed; you'll be there. (Of course, no charge.)

SWIMMING PARTY

Whether you know how to swim or not, whether you look handsome in a bathing suit or remind yourself of the Mr. Zilch cartoons—you must join the very wet party scheduled for Friday afternoon, September 11, in the Colorado Hotel's great out-door pool. Remember, this is the largest heated out-door pool in the world, something over a hundred feet wide and about two city blocks long. It's mineral water, of course, but not so bad tasting! Even bring the youngsters if you like, because at one end the pool is only about three feet deep, and the slope toward the deep end some 600 feet away is so gradual they won't slide. This party promises to be the high point of the entertainment in many ways. You can't afford to miss it, and one reason is that it is as free as the air.

HOUSE OF DELEGATES

The first meeting of the House of Delegates at this year's Annual Session will be held in the customary manner at 8:00 p. m. on Wednesday, September 9, 1936. A meeting of the Credentials Committee will be held at 7:00 p. m. that same evening to consider any question of credentials which may arise in advance of the session.

The usual order of business will be followed, subject to such changes as the House of Delegates itself may direct. Following is a brief outline of the meeting schedule for the House, to indicate

the major points of business to be considered at each meeting:

8:00 p. m., Sept. 9, First Meeting. Receive, discuss, and give to suitable reference committees annual reports of all boards, officers, standing, and special committees. Receive Trustees' and attorneys' recommendations regarding Colorado Medical Foundation. Receive proposals for amending constitution or by-laws. Elect a nominating committee.

5:00 p. m., Sept. 10, Second meeting. Receive reference committee reports. Enact budget for new fiscal year. Receive any new business not already submitted.

9:00 a. m., Sept. 11, Third meeting. Receive additional reference committee reports and additional new business. Dispose of all pending business possible, including by-law amendments, etc. Receive nominating committee report if not previously submitted.

9:00 a. m., Sept. 12, Fourth meeting. Elect officers for ensuing year. Receive and dispose of final reference committee reports. Dispose of all pending business.

Membership in House

Following is the personnel of the House of Delegates as certified on July 7, 1936, by the Committee on Credentials:

Society	*Delegate*	*Alternate*
Adams	J. W. Wells	W. F. Peer
Arapahoe	Hugh F. Lorimer	N. Paul Isbell
Boulder	W. P. Woods	J. D. Gillaspie
"	C. D. Bonham	J. A. Matlack
Chaffee	J. P. McDonough	Geo. H. Curfman
Clear Creek	R. G. Howlett	O. R. Sunderland
Crowley	Geo. B. Stanley	J. A. Hipp
Delta	A. C. McClanahan	E. R. Phillips
Denver	E. R. Mugrage	W. H. Halley
"	H. I. Barnard	H. R. McKeen
"	Atha Thomas	Thad P. Sears
"	O. S. Philpott	Emanuel Friedman
"	T. E. Beyer	C. F. Hegner
"	Jack G. Hutton	Craig Price
"	Glen E. Cheley	F. Julian Maier
"	G. Heusinkveld	J. M. Lipscomb
"	W. W. Haggart	James B. Walton
"	Paul J. Connor	V. G. Jeurink
"	Geo. B. Packard	P. W. Whiteley
"	J. M. Foster, Jr.	Maurice Katzman
"	David A. Doty	S. B. Potter
"	Jas. A. Philpott	B. B. Jaffa
"	K. D. A. Allen	J. R. Jaeger
"	Chas. J. Lowen	Lyman W. Mason
"	W. B. Yegge	Vera H. Jones
"	Duval Prey	E. L. Harvey
"	Roy P. Forbes	Frank E. Rogers
"	H. I. Laff	C. T. Burnett
Eastern	W. L. McBride	Leonard N. Myers
El Paso	L. A. Miller	Peter O. Hanford
"	D. A. Vanderhoof	Lloyd R. Allen
"	W. A. Campbell	F. O. Kettelkamp
"	W. K. Hills	James H. Brown
Fremont	E. C. Webb	A. D. Waroshill
Garfield	R. B. Porter	O. F. Clagett
Huerfano	G. M. Noonan	Geo. D. Andrews
Lake	L. L. Retallack	F. J. McDonald
Larimer	F. A. Betts	W. B. Hardesty
"	S. A. Joslyn	J. G. McFadden
Las Animas	M. C. Albi	Lee T. Richie
Mesa	E. H. Munro	Jas. S. Orr
Montrose	Isaiah Knott	F. G. Didrickson
Morgan	P. R. Hildebrand	*
Northeast	J. W. Kinzie	J. E. Naugle
Northwestern	E. L. Morrow	B. M. Bailey
Otero	G. E. Calonge	Ward C. Fenton
"	*	*
Prowers	Lanning E. Likes	L. R. Mitchell
Pueblo	J. H. Woodbridge	L. L. Ward
"	Geo. E. Rice	Geo. M. Myers
"	Geo. A. Unfug	J. L. Rosenbloom
San Juan	O. B. Rensch	W. M. Elliott
San Luis	O. P. Shippey	C. A. Davlin
"	R. D. Taylor	*
Wash.-Yuma	J. H. Larson	M. L. Crawford
Weld	O. E. Benell	J. A. Weaver, Sr.
"	W. A. Schoen	H. W. Averill
"	W. L. Wilkinson	Florence Fezer
President	Walter W. King	
Const. Sec'y.	John S. Bouslog	
Treasurer	John B. Hartwell	

*Note: Presidents and secretaries of constituent societies have been notified of these vacancies in their representation, due either to the election of ineligible members or to failure of the societies to elect, and have been asked to fill the vacancies at once.

J. S. BOUSLOG,
Chairman, Credentials Committee.

SCIENTIFIC EXHIBITS

The list of exhibit titles and exhibitors will be ready for publication in the final pocket-size program, which will reach all members of the Society about ten days in advance of the Annual Session. Advance preparations assure an outstanding group of scientific exhibits this year, worth the trip to Glenwood Springs for three days were there no other event on the program. All exhibits will be attractively grouped in the ground-floor corridors of the Hotel Colorado.

TECHNICAL EXHIBITS

All of the "old friends" among the commercial firms whose exhibits help each year to support the Annual Session will be there with their new and attractive displays at the Hotel Colorado. Advance space reservations include Mead Johnson, Gerber Products, General Electric X-Ray, Philip Morris, Petrolagar, Berbert & Sons, Kelley-Koett, Durbin's, Muckle X-Ray, Horlick's, Bard-Parker, and Wyeth. All technical exhibits will be on the ground-floor of the Hotel Colorado, and their worth will assure them careful attention from all members of the Society.

REPEATED—BY REQUEST

Questionnaire cards returned by the membership last winter proved that two 1935 innovations in the Annual Session were popular and should be repeated.

One was the Clinico-pathological Conference

plan. Two such conferences were held last year. Members wished there had been more, and wished that they could be held in the morning instead of at the close of afternoon meetings This year a Clinico-pathological Conference is scheduled each morning at 9:00 o'clock. Teams have been at work for some time preparing these crisp discussions and practical case studies.

The other was the Round Table Luncheon, where the guest speaker of the morning answers questions concerning his paper and an informal discussion of the subject can be had. Three such luncheons will be held this year, with the added advantage possible in the Hotel Colorado—a special dining room just for this purpose, away from other dining room noises.

REGISTRATION FEE

All members, including Honorary, Associate, and Interne Members of the Colorado State Medical Society, are entitled to register at the Annual Session without fee. This is one of the privileges of membership.

Colorado physicians who are not members of the Society in good standing will be required to pay a fee of $5.00 at the time of registration, this fee entitling them to all privileges of the Session.

Physicians from states other than Colorado, who are members of their respective county and state medical societies, may register without fee and enjoy all privileges of the Session as guests of this Society.

GOLF TOURNAMENT

The Annual Golf Tournament of the Colorado State Medical Society will be conducted under the chairmanship of Dr. John R. Mathews of Glenwood Springs at the Hotel Colorado Golf Course on Friday, September 11. The tournament is scheduled for 2:00 p. m. Friday, but if a sufficient number of entrants who would rather miss the morning scientific program than the afternoon so indicate, an extra flight will be conducted in the morning. Appropriate prizes will be awarded. Each entrant must be prepared to present the Chairman with his handicap certified to by the professional of his local club.

WOMAN'S AUXILIARY PROGRAM

Except as specified otherwise, all Auxiliary meetings and entertainments will be conducted at the Hotel Colorado. Following is a condensed schedule of women's activities so far announced by the State Auxiliary:

THURSDAY, SEPTEMBER 10

9:00 a. m. to 5:00 p. m.—Registration.
12:30 p. m.—Luncheon.
3:30 p. m.—State Executive Board Meeting.
5:00 to 6:00 p. m.—Get-acquainted Hour.
8:00 p. m.—Card Party.

FRIDAY, SEPTEMBER 11

9:00 a. m. to 5:00 p. m.—Registration.
10:00 a. m.—Annual General Meeting and Election of Officers. Report of Delegates to National Meeting.
12:30 p. m.—Annual Luncheon and Program.
4:30 p. m.—Swimming Party; Outdoor Pool at Hotel Colorado.
8:00 p. m.—Joint Meeting with State Medical Society; joint program to be announced later.

SATURDAY, SEPTEMBER 12

9:00 a. m. to 5:00 p. m.—Registration.
9:00 a. m. to 10:00 a. m.—Meeting of New State Executive Board.
12:30 a. m.—Luncheon.
5:00 p. m. to 6:00 p. m.—Social Hour.
6:00 p. m.—President's Reception.
7:00 p. m.—Annual Banquet with Medical Society.
10:00 p. m.—Annual Dance.

Memorize the dates of the State Meeting: Sept. 9 to 12, Glenwood Springs.

Be an "early bird." Make your hotel reservation now for Sept. 9-12 at Glenwood Springs. First come, first served, for the choicest rooms.

Do It Now!

Write to the Hotel Colorado, Glenwood Springs, and reserve your room for Sept. 9 to 12.

Don't Miss the Smoker!

Remember the Stag Smoker at Estes Park last year and Colorado Springs the year before? Then plan to attend the best one yet, Sept. 10 at Glenwood Springs.

On Time, as Usual

The last three Annual Sessions of the Colorado Society have set a national standard, every meeting, every paper, EVERYTHING, beginning and ending on time to the tick of the clock. It will be that way at Glenwood Springs. And the clocks will be on time!

Medical Organization

Midsummer Radiological Conference in Denver

WITHIN the next few days—August 5, 6, and 7—the Midsummer Radiological Conference in the Rocky Mountains, sponsored by the Denver Radiological Club, will offer an unusual treat to Rocky Mountain physicians at the Shirley-Savoy Hotel, Denver. This will be the second annual meeting.

Guest speakers will include Eugene P. Pendergrass, M.D., Assistant Professor of Radiology at the University of Pennsylvania; John D. Camp, M.D., Assistant Professor of Roentgenology at the University of Minnesota; J. M. Martin, M.D., Professor of Radiology at Baylor University, and Clyde K. Emery, M.D., Assistant Professor of Radiology at the California Institute of Technology.

There will also be six visiting speakers from the Radiological Club of Omaha. These are Howard B. Hunt, M.D., Associate Professor of Radiology, University of Nebraska; Anders P. Overgaard, M.D.; Albert F. Tyler, M.D.; T. Tennyson Harris, M.D.; James F. Kelly, M.D., Professor of Radiology at Creighton University, all of Omaha, and Edward W. Rowe, M.D., of Lincoln, Neb.

Colorado speakers on the program include W. W. King, M.D., President of the Colorado State Medical Society; H. P. Brandenburg, M.D., Ernst A. Schmidt, M.D., John S. Bouslog, M.D., and T. E. Beyer, M.D., President of the Medical Society of the City and County of Denver, all on Wednesday, August 5. On Thursday, August 6, in addition to guest speakers, Drs. Lorenz W. Frank, W. W. Wasson, S. B. Childs, Henry W. Wilcox, Elizabeth H. Newcomer, Nathan B. Newcomer, and T. D. Cunningham, all of Denver, will be on the program. That evening Robert J. Niedrach, Curator of Birds at the Colorado Museum of Natural History, will be the speaker at an informal banquet.

Friday, August 7, in addition to guest speakers, Drs. Paul R. Weeks, Sanford Withers, Leonard G. Crosby, and Frank B. Stephenson, all of Denver, will appear on the program.

Denver radiologists have arranged a number of scientific exhibits and commercial exhibits which of themselves will be worth special effort to attend the conference. Entertainment for physicians' wives, luncheons, and sightseeing tours, have been arranged.

Programs presenting the full detail of the conference have been mailed to all physicians in Colorado and adjoining states. All members of the medical profession are cordially invited to attend, and there will be no registration fee.

SPECIAL MEETING IN DENVER

A special joint meeting of the Medical Society of the City and County of Denver and the Denver Radiological Club will be held Wednesday evening, August 5, 1936, in the Venetian Room of the Shirley-Savoy Hotel.

Guest speakers for this event will include John D. Camp, M.D., Rochester, Minn., who will deliver a paper on "Osteoporosis and Its Importance in Medical Diagnosis," and J. M. Martin, M.D., Dallas, Texas, who will present "The Physician's Responsibility to the Cancer Patient."

Dr. T. E. Beyer, President of the Medical Society of the City and County of Denver, will preside over the joint meeting, which will open at 8:00 p. m. promptly.

A "dutch lunch" will be served following the meeting, in the Shirley Rathskellar.

MEDICAL SOCIETIES

DELTA COUNTY

Dr. John V. Ambler of Denver addressed the Society on "Common Infectious Skin Conditions and Their Treatment," at the regular meeting held June 26. The meeting was preceded by a dinner at the Delta House. Dr. Ambler showed some very interesting and educational slides.

E. R. PHILLIPS,
Secretary.

WOMAN'S AUXILIARY

DENVER COUNTY

The officers for the fiscal year 1936-1937 are as follows: President, Mrs. Claude E. Cooper; president-elect, Mrs. H. J. Freeland; first vice president; Mrs. Virgil E. Sells; second vice president, Mrs. Daniel R. Higbee; recording secretary, Mrs. Leo L. Davis; corresponding secretary, Mrs. George K. Cotton; treasurer, Mrs. Gerald Frumess; auditor, Mrs. J. F. Prinzing, and Parliamentarian, Mrs. Lorenz W. Frank.

Mrs. Cooper has announced appointment of the following committee chairmen for the year: Program, Mrs. W. W. King; membership, Mrs. H. J. Corper; hostess, Mrs. Ward Burdick; education, Mrs. B. I. Dumm; publicity and press, Mrs. H. B. Stein; music, Mrs. W. C. Black; Hygeia, Mrs. Frank B. Stephenson; philanthropic, Mrs. T. Mitchell Burns; legislative, Mrs. George W. Miel; telephone, Mrs. J. R. Jaeger; courtesy, Mrs. Douglas Macomber, Mrs. Arnold Minnig and Mrs. John A. McCaw.

The second of the series of benefit teas for the Physicians' Benevolent Fund was held Tuesday, July 28, at the home of Mrs. T. Mitchell Burns, 2433 East 7th Avenue, at 2:00 p. m. The assisting hostesses were Mrs. T. E. Carmody, Mrs. Clyde Cooper, Mrs. H. J. Corper, Mrs. John B. Davis, Mrs. B. I. Dumm, Mrs. Lorenz W. Frank, Mrs. George H. Gillen, Mrs. Daniel R. Higbee, Mrs. Ivan E. Hix, Mrs. J. R. Jaeger, Mrs. A. J. Markley, Mrs. Robert Maul, Mrs. E. R. Mugrage, Mrs. Leo V. Tepley and Mrs. Gurney C. Wallace.

COLORADO STATE MEDICAL SOCIETY

Officers, 1935-1936

President: Walter W. King, Denver.

President-elect: A. J. Markley, Denver.

Vice Presidents: First, L. W. Bortree, Colorado Springs; Second, Herman C. Graves, Grand Junction; Third, A. C. Sudan, Kremmling; Fourth, C. W. Bixler, Erie.

Constitutional Sec'y.: J. S. Bouslog, Denver (1936).
Treasurer: J. B. Hartwell, Colorado Springs (1938).
(The above officers constitute the Board of Trustees of the Society.)

Executive Secretary: Mr. Harvey T. Sethman, 537 Republic Bldg., Denver; telephone KEystone 0870.

Delegates to American Medical Association: John W. Amesse, Denver (1936); Alternate, John B. Crouch, Colorado Springs (1936); Harold T. Low, Pueblo (1937); Alternate, John Andrew, Longmont (1937).

Councillors:		**Term Expires**
District No. 1	F. W. Lockwood, Fort Morgan	1936
District No. 2	Ella A. Mead, Greeley	1936
District No. 3	George P. Lingenfelter, Denver, Chairman	1936
District No. 4	C. T. Knuckey, Lamar	1938
District No. 5	W. L. Newburn, Trinidad	1938
District No. 6	C. Rex Fuller, Salida	1938
District No. 7	A. L. Burnett, Durango	1937
District No. 8	Lee Bast, Delta	1937
District No. 9	W. W. Crook, Glenwood Springs	1937

Standing Committees, 1935-1936

Credentials: J. S. Bouslog, Denver, Chairman; O. E. Benell, Greeley; O. B. Rensch, Durango.

Scientific Work: Philip Hillkowitz, Denver, Chairman; Thad P. Sears, Denver; Atha Thomas, Denver.

Arrangements: W. W. Crook, Glenwood Springs, Chairman; R. B. Porter, Glenwood Springs; Warren H. Twining, Aspen; F. A. Humphrey, Fort Collins.

Public Policy: William H. Halley, Denver, Chairman; Gerrit Heusinkveld, Denver, Vice Chairman; Hamilton I. Barnard, Denver; Maurice Katzman, Denver; W. T. Brinton, Denver; C. H. Boissevain, Colorado Springs; J. S. Norman, Pueblo; Charles H. Platz, Fort Collins; George H. Curfman, Salida; W. W. King, Denver, ex-officio; J. S. Bouslog, Denver, ex-officio; Mr. H. T. Sethman, Denver, ex-officio.

Publication: C. F. Kemper, Denver (1936), Chairman; C. S. Bluemel, Denver (1937; Osgoode S. Philpott, Denver (1938).

Medical Defense: Frank B. Stephenson, Denver (1936) Chairman; Edward Delehanty, Denver (1937); T. E. Beyer, Denver (1938).

Medical Education and Hospitals: John Andrew, Longmont, Chairman; G. E. Calonge, La Junta; John G. Ryan, Denver.

Library and Medical Literature: Gerald B. Webb, Colorado Springs, Chairman; Frank R. Spencer, Boulder; John W. Amesse, Denver.

Cooperation With Allied Professions: John R. Evans, Denver, Chairman; Herbert A. Black, Pueblo; B. B. Jaffa, Denver.

Medical Economics: W. Walter Wasson, Denver, Chairman; Jack G. Hutton, Denver; Philip Hillkowitz, Denver.

Necrology: A. C. McClanahan, Delta, Chairman; Jefferson C. W. Davis, Denver; Charles B. Dyde, Greeley.

Special Committees, 1935-1936

Postgradnate Clinics: W. T. H. Baker, Pueblo, Chairman; John M. Foster, Jr., Denver; John B. Davis, Denver; G. M. Blickensderfer, Denver; L. N. Myers, Cheyenne Wells.

Cancer Education: Lyman W. Mason, Denver; (1936); C. T. Ryder, Colorado Springs (1936); J. B. Hartwell, Colorado Springs (1936); George H. Curfman, Salida (1937); George A. Unfug, Pueblo (1937); J. E. Naugle, Sterling (1937); Carl W. Maynard, Pueblo (1938); Harry S. Finney, Denver (1938); Sanford Withers, Denver (1938).

Tuberculosis Education: Charles O. Giese, Colorado Springs, Chairman; W. N. Beggs, Denver; H. J. Corper, Denver.

Advisory to the School of Medicine: N. A. Madler, Greeley, Chairman; W. W. Haggart, Denver; R. W. Hoyt, Denver; Philip W. Whiteley, Denver; W. B. Hardesty, Berthoud.

Advisory to the Board of Health: John W. Amesse, Denver, Chairman; Ralph S. Johnston, La Junta; Lawrence D. Dickey, Fort Collins; Ralph H. Verploeg, Denver; D. A. Vanderhoof, Colorado Springs.

Advisory to the F.E.R.A.: F. Julian Maier, Denver, Chairman; F. A. Humphrey, Fort Collins; W. A. Campbell, Jr, Colorado Springs.

Military Affairs: G. P. Lingenfelter, Denver, Chairman; Nolie Mumey, Denver; Duane Hartshorn, Fort Collins.

Gratuitous Medical Services: Lorenz W. Frank Denver, Chairman; R. W. Arndt, Denver, Vice Chairman; David A. Doty, Denver; F. O. Kettlekamp, Colorado Springs; Royal H. Finney, Pueblo; Special Advisor, Claude E. Cooper, Denver.

Rocky Mountain Joint Session, 1937: G. P. Lingenfelter, Denver, Chairman; Nolie Mumey, Denver; Claude Cooper, Denver; Harold T. Low, Pueblo; Lawrence L. Hick, Delta.

Delegates to Colorado Council of State-wide Health Agencies: W. H. Halley, Denver; Harry A. Alexander, Boulder.

Constituent Societies Meeting Dates; Secretaries

Adams County—Quarterly, date set by president and secretary; secretary, J. C. Stucki, Brighton.

Arapahoe County—Last Monday of each month; secretary, N. Paul Isbell, Englewood.

Boulder County—Second Thursday of each month; secretary, Warren M. Gilbert, Boulder.

Chaffee County—First Tuesday of each month; secretary, L. E. Thompson, Salida.

Clear Creek Valley—Second Tuesday of each quarter; secretary, Edward P. Fee, Arvada.

Crowley County—Second Wednesday of each month; secretary, W. M. Desmond, Ordway.

Delta County—Last Friday of each month; secretary, E. R. Phillips, Delta.

Denver County—First and third Tuesday of each month; secretary, F. Julian Maier, Denver.

Eastern Colorado—Quarterly, first Monday in December, March, June and September; secretary, W. L. McBride, Seibert.

El Paso County—Second Wednesday of each month, secretary, Harry C. Bryan, Colorado Springs.

Fremont County—Fourth Monday of each month; secretary, Archie Bee, Canon City.

Garfield County—Last Thursday of each month; secretary, R. B. Porter, Glenwood Springs.

Huerfano County—Third Thursday of each month; secretary, James M. Lamme, Walsenburg.

Lake County—First Thursday of each month; secretary, J. C. Strong, Leadville.

Larimer County—First Wednesday of each month; secretary, Thad C. Brown, Fort Collins.

Las Animas County—First Friday of each month; secretary, P. W. Carmichael, Trinidad.

Mesa County—Third Tuesday of each month; secretary, F. J. McDonough, Grand Junction.

Montrose County—First Thursday of each month; secretary, C. E. Lockwood, Montrose.

Morgan County—Last Monday of each quarter; secretary, Paul E. Woodward, Fort Morgan.

Northeast Colorado—Second Thursday in each month; secretary, E. P. Hummel, Sterling.

Northwestern Colorado—Second Thursday of each month; secretary, Duane Turner, Steamboat Springs.

Otero County—Second Friday of each month; secretary, C. E. Morse, La Junta.

Prowers County—First Tuesday of each quarter secretary, C. T. Knuckey, Lamar.

Pueblo County—First and Third Tuesday of each month; secretary, Jesse W. White, Pueblo.

San Juan—Second Saturday, January and alternate months; secretary, Charles L. Mason, Durango.

San Luis Valley—Fifteenth of each month; secretary, James R. Hurley, Alamosa.

Washington and Yuma Counties—First Tuesday of each quarter; secretary, M. L. Crawford, Akron.

Weld County—First Monday of each month; secretary, T. C. Wilmoth, Greeley.

Wyoming Section

JULY
1936

Program

THIRTY-THIRD ANNUAL MEETING

Wyoming State Medical Society
Cody, Wyoming, August 24, 25, 1936

Registration headquarters, Irma Hotel. Medical Society Meetings, Wolfville (Legion Hall). For hotel reservations write Dr. J. D. Lewellen, Cody. Make your reservations now. Tourist traffic is unusually heavy this year.

Golf Prize

The ownership of the Golf Cup may be decided this year, so notify Dr. V. R. Dacken, Cody, Wyoming, of your intention to play, and bring along your clubs.

Swimming

DeMaris Mineral Springs will be available free of charge; also Newton Lake for fresh water bathing.

Curios

At your request you will be escorted through the Buffalo Bill Museum and Tom Molesworth's Unique Western Furniture Factory.

Program, Ladies' Auxiliary of the Wyoming State Medical Society

President.....Mrs. E. L. Jewell
Shoshoni

President-Elect.....Mrs. Walter O. Gray
Worland

Treasurer.....Mrs. Herbert L. Harvey
Casper

Secretary.....Mrs. Edward S. Lauzer
Rock Springs

Sunday, August 23, 1936

Sunday afternoon and evening—Local Committee will greet visiting ladies at Irma Hotel.

Monday, August 24, 1936

Luncheon—Irma Hotel.

Tuesday, August 25, 1936

Luncheon—Burlington Inn.

MEDICAL SOCIETY PROGRAM

Sunday, August 23, 1936

7:00 P. M.—Smoker, Eagle Hall.

Monday, August 24, 1936

7:00 to 9:00—Golf Tournament, Cody Golf Club.

9:00—Call to Order—Dr. J. L. Wicks, President, Wyoming State Medical Society.
Presidential Address—"Forty Years' Progress in Medicine."—Dr. J. L. Wicks, Evanston.
"Nephroptosis and Its Treatment."—Dr. Joseph C. Bunten, Cheyenne.
"Acute Abdominal Disease."—Dr. C. F. Dixon, Mayo Clinic.
"Squint—A Problem of the General Practitioner."—Dr. George R. James, Casper.

12:00—Luncheon.

Afternoon Session

1:00—"Recent Trends in Obstetrics."—Dr. George H. Phelps, Cheyenne.
"Injection Treatment of Hernia."—Dr. Reuben J. Boesel, Cheyenne.

2:00—Meeting of House of Delegates for Adjournment.

2:05—"Heart Disease in Middle and Past Middle Life."—Dr. J. H. Upham, President-Elect, A.M.A., Columbus, Ohio.
"The Use of the Ultra-Violet Ray in the Treatment of Erysipelas."—Dr. P. M. Schunk, Sheridan.
"Report of Alternate to the House of Delegates," A.M.A. Meeting, Kansas City.—Dr. F. L. Beck, Cheyenne.
Round Table Discussion of Papers Presented.

7:00—Annual Banquet—Burlington Inn, Guest Speaker, Dr. J. H. Upham, President-Elect, A.M.A. Dance at Wolfville.

Tuesday, August 25, 1936

7:00 to 9:00—Finals of Golf Tournament, Cody Country Club.

Morning Session

9:00—"Acute Otitis Media."—Dr. F. L. Beck, Cheyenne.
"Surgical Conditions of the Esophagus" (X-Ray Film and Movies).—Dr. John H. Nilsson, Chief Surgeon, Union Pacific Railroad, Omaha.
"Localization of Brain Tumors."—Dr. Andrew Bunten, Cheyenne.
"The Practice of Medicine Under State Control."—Dr. William F. Braasch, Rochester, Minnesota.

12:00—Luncheon.

Afternoon Session

1:00—"Pyelitis With Special Reference to Treatment."—Dr. Harry H. Wear, Denver.
"Diagnosis and Treatment of Peptic Ulcer."—Dr. Thomas Cunningham, Denver.
"Urological Clinic." — Dr. William F. Braasch, Rochester, Minnesota.
Round Table Discussion of Papers Presented.

3:00—Adjourned Meeting of the House of Delegates.

Officers

President ..... Dr. J. L. Wicks
Casper

President-Elect ..... Dr. J. F. Replogle
Lander

First Vice President ..... Dr. L. H. Wilmoth
Lander

Secretary ..... Dr. Earl Whedon
Sheridan

Treasurer ..... Dr. F. L. Beck
Cheyenne

Councilors

Dr. J. H. Goodnough ..... Rock Springs
One-year Term

Dr. F. C. Shaffer ..... Douglas
Two-Year Term

Dr. George P. Johnston ..... Cheyenne
Three-Year Term

Medical Defense Committee

Dr. H. L. Harvey ..... Casper
Chairman

Dr. Earl Whedon ..... Sheridan
Secretary

Dr. F. L. Beck ..... Cheyenne

Delegate to A.M.A.—
Dr. George P. Johnston, Cheyenne.

Alternates to A.M.A.—
Dr. F. L. Beck, Cheyenne.
Dr. J. G. Wanner, Rock Springs.

Editor, Wyoming's Part of Colorado Medicine—
Dr. Earl Whedon, Sheridan.

Golf—
Dr. Victor R. Dacken, Cody.

Entertainment Committee—
Dr. R. C. Trueblood, Chairman.

Auxiliary Entertainment Committee—
Mrs. R. C. Trueblood, Chairman.

Come to the Cody Meeting

IT is your meeting. Surely the program ought to draw every member of the medical profession of Wyoming to this meeting. If you stay at home you may make a few dollars more, but you will lose in the end. Separated as we are from the big centers of medical learning by many miles it ought to be a great treat to listen to the great men who have arranged to meet with us and help us to be more up to the minute men. We owe it to these outstanding members of the medical profession to turn out and bring our wives.

There are a few old fossils who should rank with our famous dinosaurs—they have been dead the Lord only knows how long! You soon begin to look and act like these dried-up old animals unless you break away and get some of the late things which will be presented at the annual state meeting.

The younger men will attend. At least more and more new faces are seen each year and the reason they make the trips is, and ought to be, their desire to be better doctors.

We have all gone through a hot summer and need a change in conditions, need to relax and meet our old friends from over the state and the Denver bunch who always come to our meetings and who add so much to our entertainment and knowledge. They will be there and we all certainly love to see them come.

Pack up your Tin Lizzie and roll along over the plains and through the mountains, planning to arrive at Cody Sunday afternoon. Let us all get together and have a fine time. E. W.

Obituary

Clyde Yeager Beard

The Laramie County Medical Society has lost an honored member. For years Doctor Beard was an honored member of the Wyoming State Medical Society.

He was not only an outstanding physician but a citizen of the whole state of Wyoming. During the World War he gave a great deal of his time to the service of this country.

The members of the Wyoming State Medical Society extend their deepest sympathies to the family of one of our great doctors.

The resolutions adopted by the Laramie County Medical Society give a picture of the active life he lived:

MEMORIAL RESOLUTION

"In the passing of Dr. Clyde Yeager Beard, on July second, nineteen thirty-six, the Laramie County Medical Society has lost an honored and faithful member who served as president of the society for at least two terms.

"Doctor Beard was born in Tabor, Iowa, in 1881, was graduated from medical college of the University of Kentucky in 1905, practiced for a time in West Virginia and for twenty-eight years in Cheyenne. He was for a time associated with Drs. Johnston and Shingle in the Private Hospital on Carey Avenue and in the Cheyenne Clinical Laboratory. He was a member of the Staff of Memorial Hospital and more than once its chief of staff.

"With a physical endowment not possessed by many professional men and such a devotion to his practice as is seldom seen among physicians, Dr. Beard gave of his life and his talents un-

stintedly. No night was too cold or storm too severe, no patient too poor or home too forbidding, if sickness called, his services were ready to be lavished.

"It is, therefore, resolved that the members of this society offer this tribute to the memory of Dr. Beard, whose services to humanity will long be remembered by those whom he served so well.

"Be it further resolved that these Resolutions be spread upon the minutes of the Laramie County Medical Society, that they be printed in 'Colorado Medicine' and that a copy be sent to Dr. Beard's family."

Signed by: DR. J. D. SHINGLE,
DR. GEO. P. JOHNSTON,
DR. F. L. BECK.

Attest: DR. S. S. ZUCKERMAN,
Secretary, Laramie County Medical Society.

WYOMING NEWS NOTES

The fifty-eighth annual meeting of the Medical Association of Montana was held in Billings, July 8, 9, 1936.

Those attending from Wyoming were Dr. F. A. Mills, Powell; Dr. C. Dana Carter, Thermopolis; Mrs. R. E. Crane, Donald MacLeod, P. M. Schunk, and Earl Whedon of Sheridan. Dr. G. M. Anderson, Secretary of the State Board of Health of Wyoming, also attended the meeting.

The visiting doctors reported a very interesting and instructive session. We hope that many of the Montana men will meet with us at Cody, August 24 and 25.

Dr. and Mrs. J. C. Kamp left Casper, Wyoming, the first of July for an extensive tour of Europe. They plan to visit the principal clinics: London, Cologne, Vienna, Stockholm, etc., and expect to be gone about three months.

Dr. George Baker of Casper is Acting County Health Officer in the absence of Dr. J. C. Kamp, regular Health Officer of Natrona County.

At a meeting of the Laramie County Medical Society, June 17, 1936, the following physicians were elected as delegates to the State Medical Society for the year 1936: Dr. W. Andrew Bunten, Dr. Stanley Wallin, and Dr. George H. Phelps.

Those elected to serve as alternates were: Dr. H. L. Lucic, Dr. J. C. Bunten, and Dr. S. S. Zuckerman.

BOOK REVIEWS

Books Purchased From the Colorado State Medical Society Fund, April 1, 1936, to May 1, 1936

Proceedings of the Charaka Club, v. 8. 1935.

Thursfield, H., and Paterson, Donald, editors. Diseases of Children. 3rd ed. 1934.

Books Purchased From the Colorado State Medical Society Fund, July 1, 1936

Modern Concepts of Cardiovascular Disease. New York, America nHeart Association, 1936.

Infant Nutrition: A textbook of infant feeding for students and practitioners of medicine. By Williams McKim Marriott, B.S., M.D., Professor of Pediatrics, Washington University School of Medicine; Physician in Chief, St. Louis Children's Hospital, St. Louis. Second Edition. St. Louis: The C. V. Mosby Company.

To the physicians who are acquainted with Marriott's first edition on "Infant Nutrition," little need be said in praise of this work except to assure them that it remains a masterpiece. Although the second edition follows closely the general lines of the first edition, a number of changes have been made. A chapter on Vitamins, which has been almost completely rewritten, tells in a precise manner all of the present available information on this important subject. It is indeed a pleasure to learn what is known about vitamins from such a man as Marriott rather than to gain that information from the immense amount of literature with its exhorbitant claims which finds its way to the doctor's desk. A chapter on Allergy has been added.

Chapters on Breast Feeding and Artificial Feeding, both in health and disease summarize present-day knowledge concerning the nutritional requirements of infants. The author calls attention to the fact that there are numerous ways in which infants may be fed successfully, and that there is no one method of feeding or type of food which is to be recommended to the exclusion of others; on the other hand, there is no reason to resort to the use of complicated formulas or expensive proprietary preparations when the particular requirements in the individual case may be fully met by simpler means.

The chief gastrointestinal disturbances of infants—vomiting, diarrhea and constipation—receive especially full consideration. A separate chapter is devoted to relationship of infection to nutrition. There are also separate chapters on Therapeutic Procedures and on Medication in Infancy.

Throughout the entire book there is one dominant idea that is impressed upon the reader, that a thorough knowledge of the fundamental principles of nutrition is of greater value to the practitioner than to have at his command a set of "rule-of-thumb" procedures.

M. M. GINSBURG.

Medical Treatment of Gallbladder Disease. By Martin E. Rehfuss, M.D., Clinical Professor of Medicine at Jefferson Medical College, Philadelphia; and Guy M. Nelson, M.D., Instructor of Medicine at Jefferson Medical College, Philadelphia. 465 pages with 113 illustrations. Philadelphia and London: W. B. Saunders Company, 1935. Cloth, $5.50 net.

These men, with a wealth of clinical material as a background, have given us this work out of their own experience. It is addressed particularly to the internist, and deals with examinations, symptoms and their significance, diagnosis and differential diagnosis and treatment, exact drug dosage, with, in many cases, actual prescriptions. Further, they discuss diets with menus, vaccine therapy, serum therapy, non-specific therapy, alkaline therapy, the use of the x-ray, duodenal intubation, drainage and other treatments which these distinguished clinicians have found valuable in the Medical Treatment of Gallbladder Disease. The book fills a real demand.

RUDOLPH W. ARNDT.

Colorado Hospital Association

OFFICERS

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HERBERT A. BLACK, M.D., President-Elect, Parkview Hospital, Pueblo, Colorado
REV. JOHN R. MULROY, First Vice President, Catholic Charities, Denver, Colorado
E. LUELLA MORRISON, Second Vice President, Children's Hospital, Denver, Colorado
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ROBERT B. WITHAM, Children's Hospital, Denver, Colorado
FRANK J. WALTER, St. Luke's Hospital, Denver, Colorado
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GUY M. HANNER, Beth-El General Hospital, Colorado Springs
JOHN ANDREW, M.D., Longmont Hosp. Assn., Longmont, Colorado

NURSING EDUCATION AND THE HOSPITAL*

ARTHUR C. BACHMEYER
Director of University Clinics, Associate Dean, Biological Division, University of Chicago
CHICAGO

There have been many discussions concerning the education of the nurse and the effect of present-day trends and developments in nursing education upon hospitals. Occasionally one encounters the question as to whether the views of hospital administrators and those of nurse educators are not at so great a variance as to be irreconcilable.

Modern nursing dates its origin from the establishment of Kaiserwerth by the Reverend Fliedner in 1836, though the major impetus to its development resulted from the efforts of Florence Nightingale in the Crimea in 1854 and from her subsequent activities. Schools of nursing associated with hospitals were established in many places in England and on the Continent. It was not, however, until 1873 that the first schools were established in America.

Conditions existing in hospitals at that time beggar description. The nursing service was of the lowest type one can imagine. Those assigned to nursing tasks were, for the most part, ignorant untrained individuals, entirely unfit for the duties assigned to them. Though Religion, War and the advances made in Medicine have all influenced the development of modern nursing, it was largely because of the abominable conditions existing in our hospitals that so many splendid women were enlisted in the early endeavors to establish schools for the training and instruction of nurses and that they labored so ardently to improve conditions in our institutions.

Hospital authorities, in many instances, were most reluctant to admit these reformers and at first resisted the introduction of trained nurses into the wards of their institutions. The procedure was a costly one and the economic problems loomed large. Some reports state that hospital costs increased five-fold. This was not due to the increased labor costs as much as it was to the demand for greater cleanliness, more adequate medical, surgical and linen supplies and better food.

Largely because of the opposition encountered, a number of schools were established apart from hospitals. In these instances the school authorities arranged to send their students into the wards of hospitals for practical experience but retained full control of the extent of their service. From an educational viewpoint, it might have been better for the nursing profession had this type of school prevailed.

Made aware of the situation by the publicity that accompanied the establishment of schools of nursing, the public reacted favorably and the force of public opinion was soon evidenced. Hospitals developed the practice of employing one or two and with them as a nucleus established a school for the training of others. Soon, the tradition that every good hospital had a school for nurses developed and hospitals large and small all established nursing schools.

This development occurred at the same time that other equally important advances were being made in medicine. The science of Bacteriology was rapidly increasing our knowledge of the causes of disease and plac-

*Delivered before Colorado Hospital Association Meeting, April 28, 1936.



PORTER

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ing new emphasis and meaning on the term "cleanliness." The practice of antisepsis and of asepsis required trained personnel, and more attention to equipment and surgical supplies. Other advances produced the need for apparatus and new facilities within the hospital. Each advance made introduced new items of cost and made additional demands upon the nursing staff.

The increase in hospital costs for these purposes soon overshadowed those expenses encountered in the establishment of the early schools of nursing. It was not long before there came the realization that instead of being an expense, the conduct of a school of nursing (of the type of most of them) was an economy. Founded primarily in order to improve the care of the patient in the hospital, the majority of the nursing schools became and many remain today, service departments in hospitals. "Nursing service" and "School of Nursing" became synonymous terms in the minds of many hospital administrators and hospital trustees. Nursing, in contradistinction to all other professions and other skilled vocations, has trained those entering its ranks entirely apart from organized systems of education as represented by the vocational schools, colleges and universities.

Schools of nursing have been conducted as integral parts of hospitals whose primary function is service to the sick, consequently but little attention has been given to the academic aspects of the nurses' training until comparatively recent years. Though standards, even in the poorest schools, have improved, the progress does not compare with the advances made in other professions. In large measure, the education of the nurse continues to be accomplished primarily through an apprenticeship system. In many instances the number of patients in the hospital is so few that opportunities to learn through practice are very meager.

In no other profession can one find so many small schools and so many schools having such small numbers of students. Nursing schools have been established by hospitals without any regard as to the need for such schools and the number of students admitted has in like manner been without any regard to the need for nurses or for the opportunities for their employment upon graduation. Students have been admitted largely because of the need for their services in the hospital and limitations have been set largely by the hospital's ability to provide living quarters for them. Considerable evidence has been offered to show that there has been a large overproduction of nurses in recent years. In the few quarters in which one hears of a shortage of nurses, one finds on closer inquiry that it is not a shortage of nurses but a dearth of properly qualified nurses. Registries or placing agencies repeatedly submit long lists of names to superintendents of nurses, only to have the latter report that only one or two have been found capable to do the work required. It would appear that there are too many nurses but that most of them were poorly equipped to meet the demands of modern nursing service.

The progress that has been made in Medicine, in diagnostic procedure and in therapy, has created demands for knowledge and special aptitudes on the part of the nurse that she cannot meet unless she has had a comprehensive and sound basic training. She must have sufficient knowledge of the basic medical sciences to appreciate the significance of the routine laboratory procedures used in diagnosis; to understand the reasons for aseptic and antiseptic technics; to be aware of the hazards of intravenous therapy. She must be given opportunity to develop the special aptitudes which many modern nursing procedures require. While it appears essential that every nurse should be adequately instructed in the care of the patient, consideration must also be given to the fact that a number of other fields have been opened, in which the services of women, who have had the basic education of the nurse, are in demand. Modern medicine utilizes the assistance of a number of highly skilled technicians. The graduate nurse is a prime candidate, after further instruction, for such positions.

If nursing is to attract women of superior intellect, women, who after a proper education can fulfill the many requirements demanded of the nurse, its educational stand-

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ards must be raised and instructional methods must be changed. Nursing schools must be recognized as educational institutions—many of those now in existence should be closed. . The possession of a diploma in Nursing or of an R.N. is not sufficient qualification to merit appointment as an instructor. Students should be more carefully selected and held to proper scholastic achievement. The curriculum must be adapted to meet the purposes which the school seeks to serve. The school of nursing should be under auspices which will give paramount attention to its educational activities and interests. This can, no doubt, be done under Hospital sponsorship, but that this will be the case is not borne out by the experience of the past.

The hospital has won its place as an indispensable agency in modern civilization because it provides the facilities by means of which the medical and nursing professions can render competent and adequate service to the patient. Its primary interest is and must always remain the quality of service to the patient. Its funds are primarily provided for such service and not for the conduct of an educational enterprise.

Except for those comparatively few institutions under college or university control, educational interests in hospitals are only incidental and of less importance than is the performance of its service functions. In the large majority of hospitals the conduct of a school of nursing is quite likely to remain, as it has been in the past, a subordinate function carried on primarily because of its assumed economical aspects.

It is this aspect of the entire situation, however, that is most disturbing to hospital administrators and Boards of Management and which presents the most difficult problems for the hospital. Harrassed by the low occupancy of beds, by poor collections, by declining income from endowments and by almost complete cessation of gifts and on the other hand by rising costs of operation, they "view with alarm" any program that entails further financial burdens. And it must be admitted that for the most hospitals there would be an increase in operating cost if

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Laryngoscope, Feb. 1935, Vol. XLV, No. 2, 149-154
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they were to close the school of nursing and employ a graduate staff on the one hand or, on the other, if they were to conduct the school as an educational institution should be conducted.

Though there are those who argue against improving the standards of nurse education and who insist that the training under existing conditions is satisfactory, their arguments are not very forceful and, for the most part, are due to a lack of knowledge of the general situation. When serious illness strikes near home, all will agree that the best qualified and most competent nurse and physician are none too good.

There would be far less criticism of the trends and developments in nurse education from hospital authorities and little opposition if the economic problems could be readily solved. That a solution has been found in a number of instances is indicated by the fact that a considerable number of schools of nursing have been closed in recent years. No easy and generally applicable solution is close at hand but if any advance is worth while, means to accomplish it are usually found. If we are earnest in our contention as hospital administrators that the patients' best interests are our primary concern, then we must admit that a graduate nursing staff is to be preferred over that one in which most of the nurses are only partially trained students.

Comparatively few hospitals have made a careful and comprehensive analysis of the cost of operating the school of nursing and, contrarily, what it would cost to operate the institution with a graduate staff. The situation differs in each institution. In some, it has been possible to effect a saving by closing the school. In others, the reverse has been true.

Administrators would do well, therefore, to examine their nursing service and nursing school costs in a careful and comprehensive manner and in reference to the recent studies published by the National League of Nursing Education and the Council on Administrative Practice of the American Hospital Association. Careful attention should be given to the extent to which nurses are used in the performance of rou-



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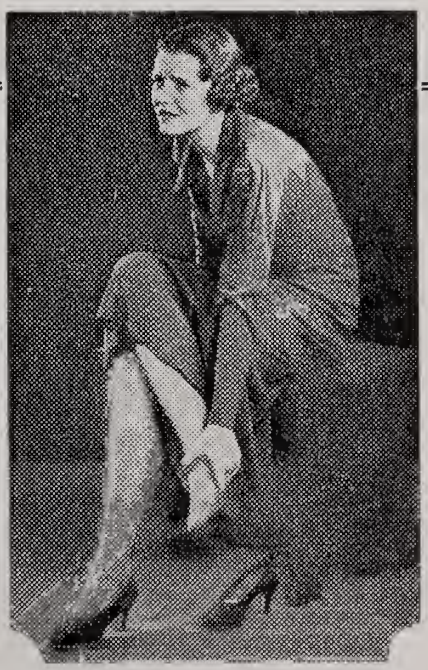
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tine and more or less menial non-professional services.

Not infrequently such a study will disclose the fact that numerous duties assigned to the nurses do not demand the knowledge and aptitudes of the highly skilled worker such as the graduate nurse should possess.

Many of the minor and routine duties now rather generally assigned to the nurse can be performed equally as well by unskilled or semi-skilled personnel after very little instruction. An increasing number of hospitals are employing such workers under the designations of attendant, nurse assistant, trained attendant, nurse helper, etc.

This practice may offer a partial solution to the economic problem involved in closing a school of nursing for it would not be necessary to replace student nurses with equal numbers of graduates if such semi-skilled personnel were employed to perform some of the service. No doubt some improvement in the nursing service would also result, for the staff nurse would have more time for the purely nursing duties in which she finds greatest satisfaction and in which there is greatest need for her skill.

When proper care is exercised in the selection of the attendant group, when the duties assigned to them are carefully chosen and their work is properly supervised, they can serve with efficiency and with great satisfaction to all concerned.

There is no hazard to the nursing profession or the public from this group so long as they are working in hospitals. Here, their activities are supervised by the graduate nurses, their place in the organization is clearly defined and there is no misunderstanding concerning their functions or responsibilities. When, however, such individuals leave the employ of an institution and offer their services to the public, which they may do in most states, because of the lack of legal restrictions, they not only compete with the nursing profession, but lower the standard of nursing service in private homes. It is difficult to evaluate the gravity of this hazard or to say how much attention should be given it. Some states have enacted legislation which prevents the untrained

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woman from selling her services under the guise of a trained nurse. Some measure of protection to the profession would appear to be available in this manner.

The practice of seeking hospital service in cases of serious illness, as well as for conditions requiring surgical attention, is steadily increasing. As the public comes to a realization that the best nursing service, as well as the best medical service, is to be had only in the modern hospital, the tendency to use the hospital will become more definitely fixed. May we not therefore expect to see a decline in the number of nurses needed for private duty outside of the hospital? The type of nursing service required in many of the chronic illnesses and during convalescence can often be supplied by the attendant group and the training such personnel receive in our hospital may well be so utilized at less expense in the private home.

While we may anticipate a declining demand for private duty nurses outside the hospital, there should be a greater demand for the services of staff nurses within our institutions and the many fields allied to medicine are increasingly offering other opportunities for the employment of nurses, who have supplemented their basic training by further training.

The relation of the practice of medicine to nursing is so intimate and of such nature that changes in the former are sure to influence the latter. The services required of the nurse, the responsibilities imposed upon her as the result of the many advances made in medicine are quate different from those she encountered twenty-five years ago. They call for a greater knowledge of the fundamental sciences, for greater skill and for greater intellect. The nurse of the future must be qualified to meet greater responsibilities. This is true of the nurse who engages in the direct care of the sick and equally true of those in the field of public health nursing or in other closely allied activities. Whether the nurse of the future will be qualified to meet the demands that will be made and thus occupy a position of ever-increasing importance in our social

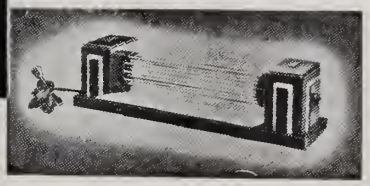
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economy will depend upon the comprehensiveness and soundness of her education.

Nursing educators are not unmindful of the seriousness of the economic problems confronting our hospitals. They do not expect to effect revolutionary changes in nursing education in a short space of time. They are hopeful of accelerating the rate of improvement among schools of nursing that is now under way and of bringing about an orderly and sound development in the preparation of those who seek to enter their profession. Hospital administrators should study the problems presented carefully, considerately and without prejudice, and endeavor to cooperate with the nursing profession, in order that the greatest good to all concerned may be achieved.

PUBLIC HEALTH NOTES

Preliminary Plan of Procedure for Colorado in the Social Security Enactment

All members of the State Medical Society will be interested in the administrative machinery which has been developed jointly by our Division of Public Health (State Board of Health) and the responsible officers and committees of the Society. Frequent conferences have been held during the past six months and the provisions of the Social Security Act have been reviewed with considered deliberation, to the end that harmonious relations will be maintained and just criticism avoided. Inasmuch as this endeavor embraces entirely new problems in the medical-social field throughout the nation, experience could not be drawn upon in devising methods for the most efficient and economic execution of the program adopted, but it is believed that the following outline will meet with the approval of the profession and the public.

CRIPPLED CHILDREN PROGRAM

As Approved by the Colorado State Medical Society's Advisory Committee to the State Board of Health

Under the provisions of the Social Security Act, Federal Funds are allotted to states on a matching basis to provide services for crippled children. Such services are to be provided in the State of Colorado and will include locating crippled chil-

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dren and provisions for diagnosis, hospitalization and after-care of children who are crippled, in accordance with the following conditions:

1. A crippled child shall be considered to be a person under twenty-one years of age who has some remedial deformity or disease of the skeletal system, articulations or related structures of a chronic nature or tending toward chronicity. For purposes of this definition, harelip and cleft palate shall also be included as a crippling condition.

2. The treatment of crippled children shall be carried out by orthopedic specialists who are (a) in good standing with the Colorado State Medical Society, (b) who are members or are eligible for membership in (1) the American Orthopedic Association, (2) the American Academy of Orthopedic Surgeons or (3) are eligible for certification by the American Board of Certification of Orthopedic Surgery; provided that treatment of crippled children suffering from harelip or cleft palate shall be carried out by surgeons skilled in this specialty.

3. Hospitals for the care of crippled children shall be selected on the basis of the requirements of the American College of Surgeons or the equivalent of these standards.

4. Diagnostic clinics will be held throughout the state at prearranged times and places as will best permit of access by crippled children. Such clinics shall be arranged through cooperation with the local medical society and interested groups and organizations. They shall be conducted by orthopedic specialists who will make report and recommendations to the Director of the Division of Crippled Children concerning all children examined.

5. Any child who has resided, or whose parents have resided, within the state for one year and who may be suffering from a crippling condition as incorporated in Section 1, is eligible for examination at a diagnostic clinic, provided the case is referred for examination by a local physician.

6. Consideration for hospital treatment will be given cases according to their immediate needs and only to those cases whose parents or guardians are financially unable to provide proper treatment.

7. Consultation with medical, surgical or other specialists will be provided when, in the opinion of the orthopedic specialists such services are required to determine proper diagnosis and treatment.

8. Final selection of cases for hospital treatment will be made by the Director of the Division of Crippled Children after proper consideration of the condition, the immediate need for hospitalization, and the prospect of response to remedial treatment have been taken into consideration.

9. The parents or guardians of patients selected for treatment shall be required to execute the necessary permissive and other legal forms to limit the liability of the hospital, attending physicians, and the State Board of Health.

MATERNAL AND CHILD HEALTH PROGRAM

As Approved by the Colorado State Medical Society's Advisory Committee to the State Board of Health

Under the provisions of the Social Security Act federal funds are allotted to states on a matching basis to provide a Maternal and Child Health Program. Such a program is to be provided in the State of Colorado through the State Division of Public Health and will include a preventive, demonstrational and educational program

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for parents, children, guardians, midwives and nurses. Lectures and demonstration courses in obstetrics and pediatrics as well as Dental Hygiene will be given in rural districts for physicians This program will be carried on under the following conditions:

1. Prenatal and Well-Baby Clinics and Conferences will be held throughout the state at prearranged times and places according to accessibility. These will be conducted by physicians and will be both itinerant and permanent. Such clinics shall be arranged through cooperation with local medical societies and interested organizations and groups.

2. Any medical care and advice given in clinics shall be given only to those who are financially unable to pay a private physician or at the request of a physician.

3. Literature on child and maternal health shall be distributed to interested persons upon request regardless of financial status.

4. Immunization of children against smallpox, diphtheria and typhoid shall be done at the clinics for approved cases by the doctor in charge of the clinic.

5. Classes in preventive medicine, as Home Care of the Sick, Mothers' Classes, Community Health and high school classes in Mother-Craft shall be held regardless of the financial status.

6. "Refresher" or post-graduate courses for doctors including demonstrations, motion pictures on obstetrical and pediatric subjects and lectures by specialists in these fields will be held throughout the state under the joint auspices of the State Medical Society and the State Board of Health.

Obstetrical and pediatric specialists for the conduct of the above shall be selected from personnel approved by the Colorado State Medical Society.

7. County or district Public Health nurses will carry on the preventive Maternal and Child Health Programs in conjunction with their usual duties and under the general supervision of the Director of Maternal and Child Health or the County Health Officer when employed on full time basis by the State Board of Health.

8. In accordance with the approval of the State Medical Society, arsenicals and mercurial ointments will be furnished free through the State Health Department to physicians who have patients suffering from lues and who are pregnant and who belong to the acceptable economic group, and for children whose parents are unable to supply these remedies.

9. A preventive program for dental hygiene for mothers and children will be instituted; this work will be amplified through conference with the State Dental Association.

10. Child Health Conferences, at suitable points and at frequent intervals will be established and maintained and will be conducted by regularly appointed physicians.

Advisory Committee to the Board of Health,
By JOHN W. AMESSE,
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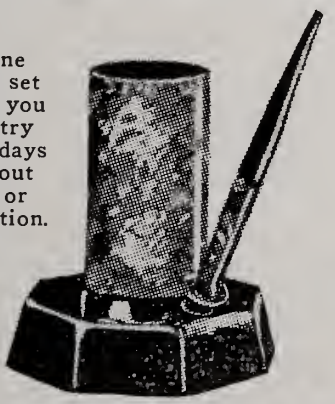
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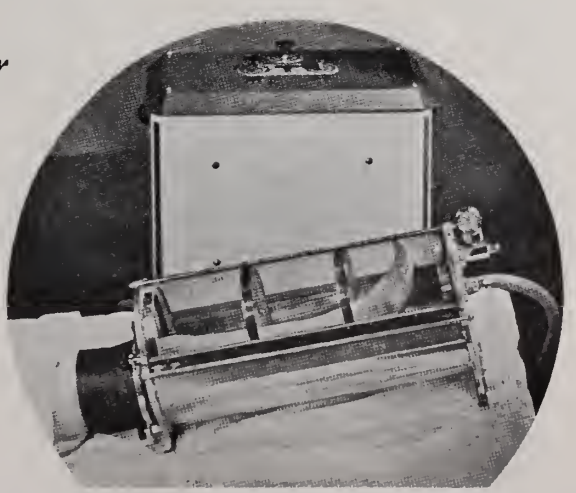
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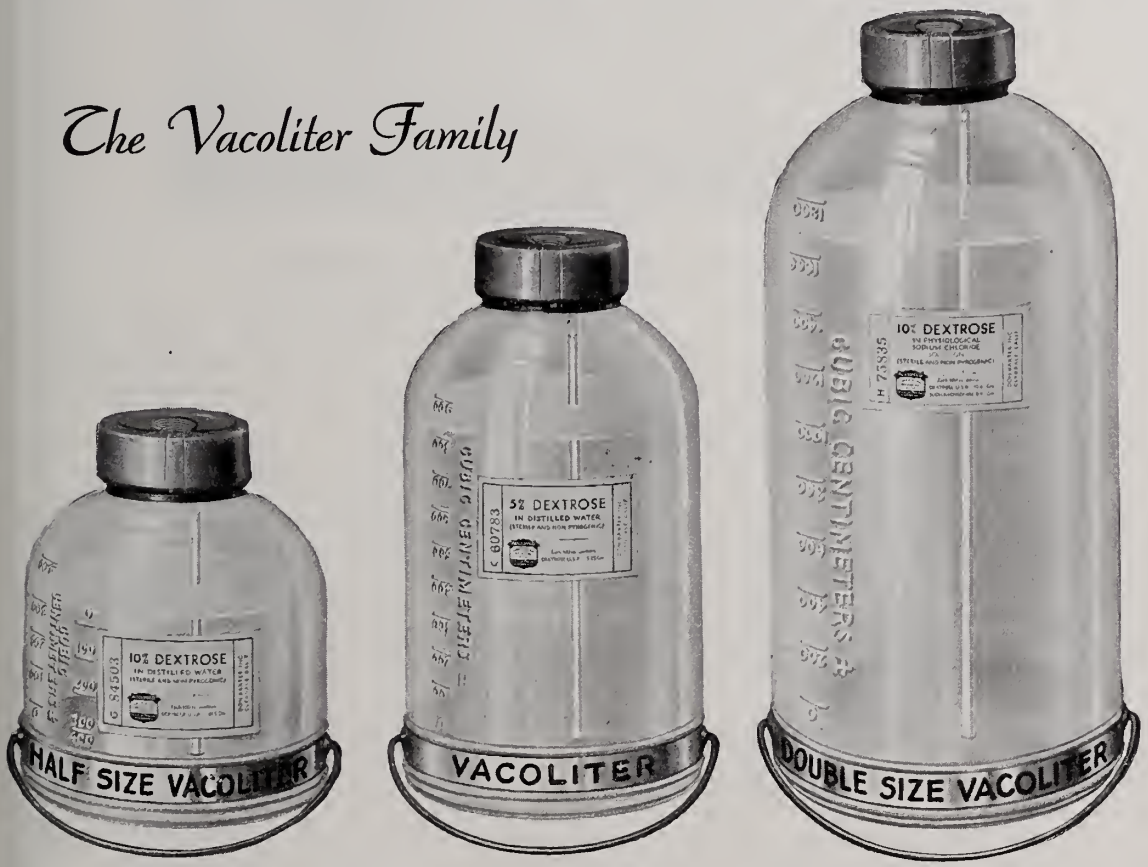
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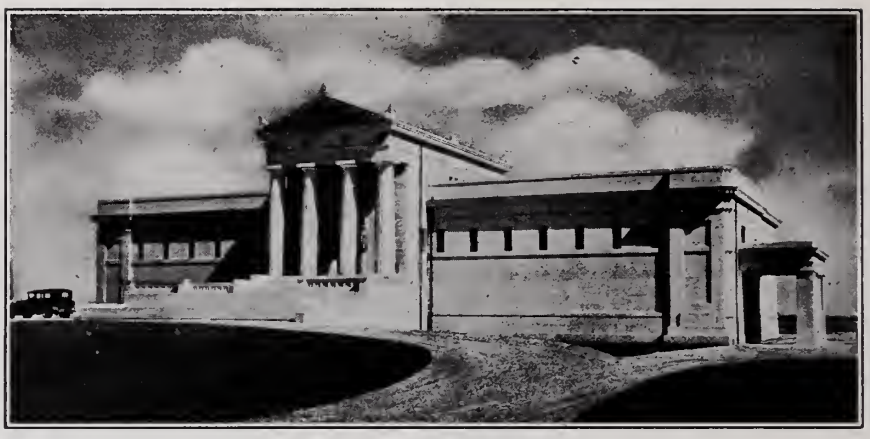
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CASE HISTORY: A. P., age 32, male, white. A plumber hypersensitive to dust; nasal mucosa chronically engorged. Observed at weekly intervals at Nose and Throat Clinic of a Philadelphia hospital.



FIG. 1. Nov. 27. Nose in unshrunken state after 14 days of spraying twice daily with ephedrine, 1% in oil. Mucosa engorged, bluish, turgid and irritated; inferior turbinate blocking nostril. Marked tolerance to treatment had developed.

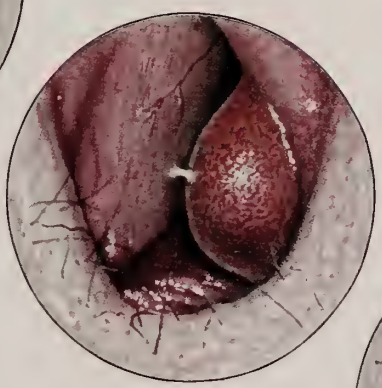


FIG. 2. Dec. 13. Nose in unshrunken state after 16 days treatment with Benzedrine Inhaler, three times daily. Engorgement reduced, tone good, irritation relieved. Note absence of atony.



FIG. 3. Dec. 13. Nose in shrunken state seven minutes after application of Benzedrine Inhaler. High degree of shrinkage indicates no tolerance even after continued use.

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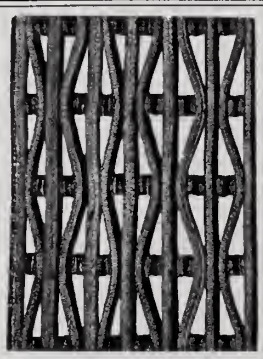
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VITAMINS IN CANNED FOODS

III VITAMIN A

• The most characteristic evidence of severe human vitamin A deficiency, and one which is increasingly rare in this country, is xerophthalmia. Night-blindness, one of the manifestations that usually precedes xerophthalmia, has been recognized as a deficiency disease since the time of Hippocrates who described the disease, and its cure by eating liver. Infrequent reports of this disorder, however, still appear in the American literature. Most if not all of the symptoms accompanying a deficiency of vitamin A are thought to be the result of an impairment of the epithelial tissue (1). In this connection, a new method for the quantitative determination of this vitamin is based on the keratinization of germinal epithelia (2).

That vitamin A exerts an influence on the growth of human infants and children is also generally accepted.

As early as 1919, a relationship between vitamin A in plant foods and plant pigments was postulated. Research since that date has indicated that beta-carotene and some related compounds may be considered as provitamin A (3).

The vitamin A potency of fruits and vegetables is apparently due to their carotene content, since vitamin A as such has never been found in plant tissue. Ingested carotene is believed to be converted into vitamin A by enzyme action in the liver of the animal (4), in which organ the vitamin is stored.

Vitamin A in the form of carotene may be present in yellow, green or red pigmented fruits and vegetables—in the two latter cases, the yellow color of carotene being masked by other pigments present. Color alone, therefore, is not always a reliable index of potential vitamin A potency.

Both vitamin A and carotene are relatively stable to heat but are subject to destruction by oxidation. However, foods of both animal and plant origin, when canned by modern methods, have been found to retain their vitamin A potencies in high degree (5).

In fact, in some instances, practically no loss of vitamin A potency can be detected by formal bio-assays (6).

Commercially canned foods, therefore, may be used with the knowledge that they will contribute to the American dietary amounts of vitamin A entirely consistent with those contained in the raw materials from which they were prepared.

AMERICAN CAN COMPANY

230 Park Avenue, New York City

(1) 1927. J. Exp. Med., *46*, 699
(2) 1935. J. Nutrition, *9*, 735
(3) 1929. Biochem. J., 23, 803
(4) 1931. J. Biol. Chem., *94*, 185
(5) a. 1933. J. Am. Diet. Assoc., *9*, 295
b. 1931. J. Nutrition, *4*, 267
c. 1935. Am. J. Pub. Health, 25, 1340
(6) a. 1925. Ind. Eng. Chem., *17*, 69
b. 1926. Ind. Eng. Chem., *18*, 85

This is the sixteenth in a series of monthly articles, which will summarize, for your convenience, the conclusions about canned foods which authorities in nutritional research have reached. We want to make this series valuable to you, and so we ask your help. Will you tell us on a post card addressed to the American Can Company, New York, N. Y., what phases of canned foods knowledge are of greatest interest to you? Your suggestions will determine the subject matter of future articles.

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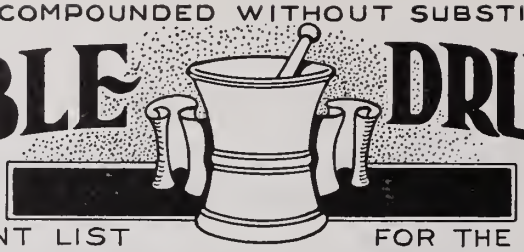
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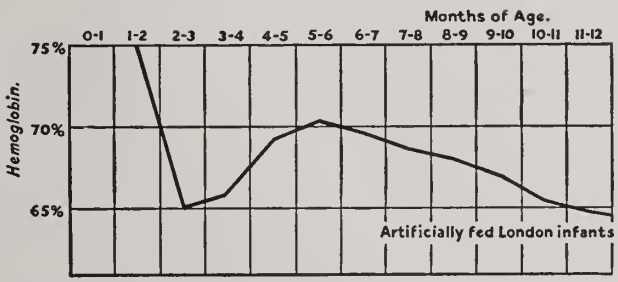
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Nutritional Anemia in Infants



Hemoglobin level in the blood of infants of various ages. Note fall in hemoglobin, which is closely parallel to that of diminishing iron reserve in liver of average infant. Chart adapted from Mackay. It is possible to increase significantly the iron intake of the bottle-fed from birth by feeding Dextri-Maltose With Vitamin B in the milk formula. After the third month Pablum offers substantial amounts of iron for both breast- and bottle-fed babies.

Reasons for Early Pablum Feedings

1. The iron stored in the infant's liver at birth is rapidly depleted during the first months of life. (Mackay,[1] Elvehjem.[2])

2. During this period the infant's diet contains very little iron—1.44 mg. per day from the average bottle formulae of 20 ounces, or possibly 1.7 mg. per day from 28 ounces of breast milk. (Holt.[3])

For these reasons, and also because of the low hemoglobin values so frequent among pregnant and nursing mothers (Coons,[4] Galloway[5]), the pediatric trend is constantly toward the addition of iron-containing foods at an earlier age, as early as the third or fourth month. (Blatt,[6] Glazier,[7] Lynch[8].)

The Choice of the Iron-Containing Food

1. Many foods reputed to be high in iron actually add very few milligrams to the diet because much of the iron is lost in cooking or because the amount fed is necessarily small or because the food has a high percentage of water. Strained spinach, for instance, contains only 1 to 1.4 mg. of iron per 100 gm. (Bridges.[9])

2. To be effective, food iron should be in soluble form. Some foods fairly high in total iron are low in soluble iron. (Summerfeldt.[10])

3. **Pablum is high both in total iron (30 mg. per 100 gm.) and soluble iron (7.8 mg. per 100 gm.) and can be fed in significant amounts without digestive upsets as early as the third month, before the initial store of iron in the liver is depleted. Pablum also forms an iron-valuable addition to the diet of pregnant and nursing mothers.**

Pablum (Mead's Cereal thoroughly cooked and dried) consists of wheatmeal, oatmeal, cornmeal, wheat embryo, brewers' yeast, alfalfa leaf, beef bone, iron salt and sodium chloride.

[1-10] Bibliography on request.

MEAD JOHNSON & COMPANY, Evansville, Indiana, U. S. A.

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KARO
BEFORE AND AFTER OPERATIONS

WATER BALANCE (24 HOURS)	
Intake	*Outgo*
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Beverages (600 cc.)	Skin (700 cc.)
Solid Food (700 cc.)	Lungs (600 cc.)
Metabolic Water (300 cc.)	Feces (100 cc.)

SURGEONS prepare patients pre-operatively to prevent acidosis and post-operatively to protect nutrition. Karo serves this dual purpose. Given with a soft diet before operation the patient will better resist surgical acidosis. And Karo forced with fluids after operation provides vital energy the patient craves.

Acidosis accompanies anesthesia and toxicity follows surgical trauma. Their effects may be moderated by the administration of Karo. It enriches the glycogen reserves thereby helping to prevent surgical acidosis, decrease post-anesthetic vomiting, stimulate the strained heart and combat shock.



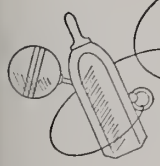


After operation nutrition wanes when the patient cannot tolerate food. Karo with fluids helps maintain the water balance of the body and tides the patient over with basal energy. Karo provides 60 calories per tablespoon. It is relished added to milk, fruit juices and vegetable waters. Karo is a mixture of dextrins, maltose and dextrose (with a small percentage of sucrose added for flavor), well tolerated, not readily fermentable, and effectively utilized.

Corn Products Consulting Service for Physicians is available for further clinical information regarding Karo. Please Address: Corn Products Sales Company, Dept. SJ 917 Battery Place, New York City.

One of a series of advertisements prepared and published by PARKE, DAVIS & CO. in behalf of the medical profession. This "See Your Doctor" campaign is running in the *Saturday Evening Post* and other leading magazines.





Life is not all Milk and Rattles

Life is not as gentle to a tiny baby as it seems to be.

He comes into this world, never having breathed, never having eaten, never having digested food. Almost immediately, his little body must adjust itself to these vital functions.

If he is like most babies, he doubles his weight in the first few months; *triples* it in the first year. Every part of his body must make adjustments to accommodate this proportionately tremendous growth.

A new baby encounters disease-producing germs for the first time, and must build up resistance against them. If he does become ill, he is without the power to tell what the trouble is or where it lies. And when upset, he frequently is further endangered by the well-meant, but often harmful, suggestions of relatives and friends who "know *just* what to do."

Yes, infancy is so hazardous a period that, last year, the number of deaths among babies under one year of age was more than *three times* the number of deaths from automobile accidents.

The doctor is the one person equipped to give parents competent guidance through this dangerous period of a baby's life.

The doctor who sees the baby regularly can often detect sickness or physical trouble *in its early stages*. He can prescribe correct diet, proper hours of sleep, healthful and sensible handling of the habit problem. And he can start an important immunization program, to prevent such diseases as smallpox, diptheria, and whooping cough.

Enlisting the doctor's help—entrusting growth, diet, and general health to his supervision—is one of the most sensible precautions parents can take in those dangerous days of the child's first year.

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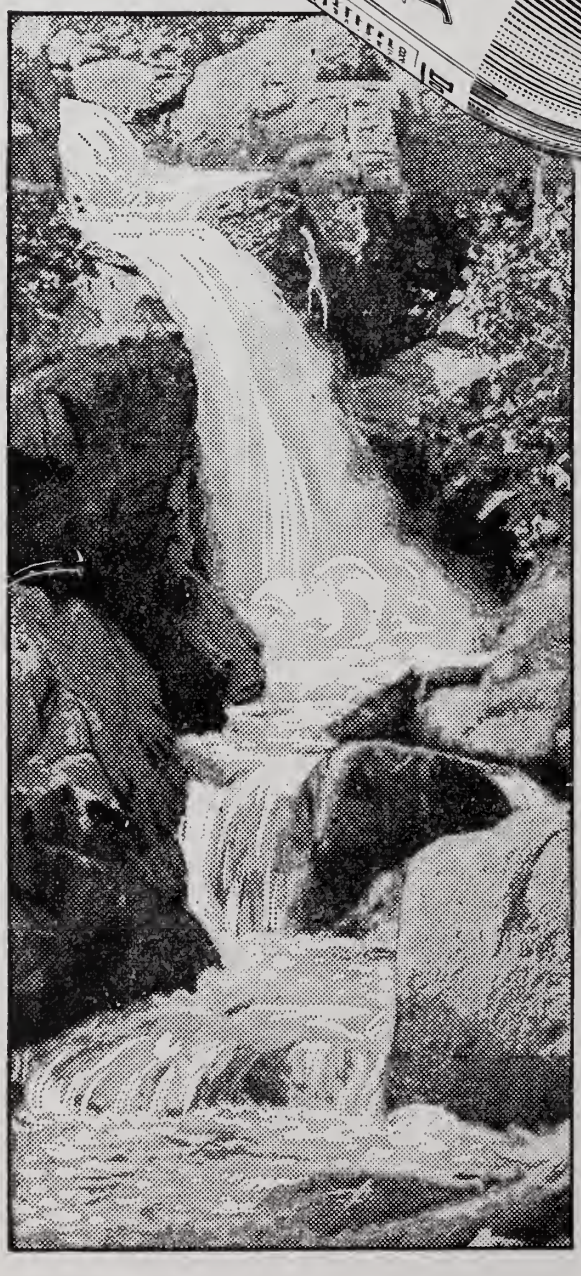
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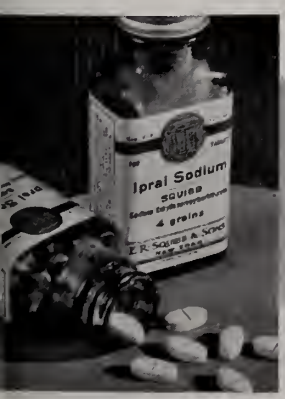
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Colorado Medicine SEPTEMBER 1936

Editorial

The Colorado Medical Foundation

YOUR special attention is recalled to the first article in the scientific section, August issue of Colorado Medicine. It has to do with the most important single act of the officers and members of the Colorado State Medical Society ever instituted during its history.

We refer to the Colorado Medical Foundation. Comment in these columns is unnecessary, as the article is very explicit. The importance to organized medicine of this enactment is inestimable. Its beneficial effect upon the future of our profession in this State—and its inevitable impression upon physicians and medical societies in other states—is beyond computation. Its merit will at once be apparent to every thoughtful member. There will be engendered a universal desire to substantiate its growth, to participate actively in its affairs, and to assure its permanence.

Be sure to read the article and give it careful thought! This will prepare you for important participation in the development of *your* Foundation.

Olympics at Glenwood Springs!

Among the other unusual excursions into the Land of Whoopee, designed wholly to drive dull care to his last resting place, there will be a race and fancy swimming match in the great pool, with Past Presidents only as contestants. Winner to take anything in sight that his heart desires!

Better be there!

Special Railroad Cars to Glenwood

AS the date for the Annual Session at Glenwood Springs approaches, it is evident that many members will travel to the meeting by rail from the principal Eastern Slope cities.

If those who are planning rail travel will notify the Executive Office of the Society or the Denver city ticket office of the Denver & Rio Grande Western Railroad, giving forty-eight hours' notice of the time of departure for Glenwood, it is probable that special cars can be arranged almost daily. Already one special parlor car seems to be assured for the 4:00 p. m. train of Tuesday, September 8, from Denver. Special Pullmans may be arranged for several of the night trains.

Special railroad cars cannot be commanded on a few hours' notice, so to gain the extra pleasure of such a trip provided by private groups, advance notice must be given.

Reservations at Hotels Colorado and Denver are reported very much in demand. In fact, individual rooms with baths are all reserved. A few rooms with connecting baths may possibly be available. We suggest that friends combine their requirements and make immediate request for space.

Enthusiasm is riding high and a great meeting is assured——

September 9 to 12.

The Physician as an Ideal Statesman

"GOVERNMENT Philosophy in a Sick World" was discussed a few months ago by Walter Lippmann before the New York Academy of Medicine. The substance of the address is particularly timely and of interest to medical men, in view of the en-

croachment of paternalism upon medical practice.

Mr. Lippmann likens the relation of dictators to the fascist states of Europe as that of a chieftain to his warriors. A comparable relationship between political leadership and the people of this country has been discussed with every conceivable modification. Many influential minds have pictured the statesman as an engineer. Popularity of this thought may be explained by the impression that modern man's triumphs have made upon the populace. Compare the great engineering works—buildings, ships, machines, dams, tunnels—with the inefficiency of statesmen, financiers, and business men. H. G. Wells many years ago visualized a clean and orderly government run by engineers instead of politicians and corporate competitive interests. The Soviet plan in Russia represents an economy based upon the application of engineering principles to human society.

Such conception of government is fundamentally wrong, because society is animate, whereas the engineer's materials are inanimate. Statesmen deal with human beings and their behavior. The girders and bricks of a building do not change their vitality, nor do they reproduce their kind. They have no will to determine whether their original plan and function must change or be changed. Mr. Lippmann suggests, therefore, that statesmen had better derive inspiration from those who deal with animate things—farmers, teachers, physicians.

A good physician, for example, knows many things intuitively which he cannot communicate. Such understanding is engendered by a sympathetic relationship to his subject. An engineered society would be denied this "sense of touch" in dealing with human affairs. The man with a feeling for living organisms could not attempt fabrication of society along the lines of engineering.

Fanciful as it might seem to conceive of a physician at the helm of a commonwealth, we appreciate Mr. Lippmann's thoughtfulness and his conception of the finest ideals of medical science: "The sound physician, I take it, is not attempting to make a superman out of his patient. He takes measures to improve his resistance. He intervenes with medicines and surgery when he thinks he can assist the patient in recovering his own equilibrium. Always, if I understand the faith of the physician, he regards himself not as a creator, designer, and dictator of the nature of man, but as the servant and the ally of nature. There are times, to be sure, when his patient is prostrate and the doctor must be the master of his whole regime. But even in these times, the good doctor must be continually seeking for ways, not to make a new man of his patient, but to walk again on his own feet."

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Dr. Wetherill Discusses Pressure Necrosis

IT IS indeed a pleasure to note that after many years of retirement one of the distinguished members of our Society still retains a keen interest in the practical problems of medicine. His wisdom, good judgment, and common sense are an inspiration to the young man of today as they were twenty years ago.

Dr. Horace G. Wetherill reports in the July, 1936, issue of the Western Journal of Surgery, Obstetrics, and Gynecology on the factor of pressure necrosis as a cause of "stitch abscess." He calls attention to the fact that in spite of the sterility of suture materials, the asepsis of hospital technic and the cleanliness of the surgeon and his assistants, the "stitch abscess" occurs almost as frequently today as it did twenty years ago.

Certain factors such as traumatism with retractors, hemostats, sutures and ligatures causing necrotic and ischemic areas which have little resistance to even the lowest grades of infection have been recognized as causes of "stitch abscess" for more than a generation. Yet little has been done to correct these mistakes.

Dr. Wetherill repeats these truths so that we may become more conscious of them and avoid troublesome mistakes.

J. W. A.

Report of A Case

These columns seldom carry a case report. However, here is one. At first we debated whether to present it here or back in Immateria Medica. But it isn't funny; it's sad, and serious. It obviously did not belong with regular case reports because of its peculiar nature. In the first place, nobody cares about the case—except perhaps his mother and Uncle Sam. And finally, it contributes nothing to medical science. It may contribute something to political science.

One of our members whose veracity is beyond question reports the following case:

A strong, physically capable man, aged 37, complained of pain and soreness just to the left of the sternum over the precordium. The pain had not been there prior to the last few months, but was becoming more annoying. It bore no relation to meals, never awakened him at night, and there was no history of exertion. There was no impairment of any former potentialities. Family history, utterly unimportant. Personal history, inconsequential. Past history, negative except that he was able to work only when under a boss' nose, but usually managed to be on a payroll. Physical examination: a ruddy, very well-nourished man of the above-mentioned age, resting quietly in the most comfortable chair in the office, obviously not suffering acutely. He demonstrated the painful area on his chest by pointing with his right hand. The small area was fairly well delineated. Inspection, negative. He claimed it hurt when pressed upon. Pressure atrophy had not set in.

Our colleague performed thorough physical and laboratory examinations and carefully weighed the history. By the way, we have failed to mention the patient's occupation: W.P.A. "worker." And there is the clew. The painful area is the same distance from the ground that a shovel is long! Diagnosis (attention, industrial surgeons): osteochondralgia secondary to constant leaning on a shovel. Prognosis: that funnel-breastedness or a return of the old cobbler's deformity will show a high incidence in the next few years unless the people do something about it.

General considerations: Even if we did not know our colleague's residence, there could be no doubt that he lives near a number of W.P.A. projects. Perhaps he drove out University Boulevard, across Cherry Creek, and glanced at the hundreds of men so close together that if one of them swung an honest pick somebody's head would show a *real* injury. Their cars were all parked on one side of the creek and they on the other. And all through the valley, not a creature was stirring (except one who was on his way to get a drink). You see, the reporter of this case is not the only one who has observed such inertia.

It was months ago that everyone laughed about the W.P.A. "worker" who complained to his boss that he didn't have a shovel. All his buddies had one, but he—poor fellow—had nothing to lean on. The funny side of it has long since passed, especially when such a "worker" actually seeks medical treatment for contusion unquestionably caused by such leaning. It is your money and mine that has nurtured a generation of chiselers, and it will be our money and our sons' money that will carry them on. America will not permit them to go hungry, but we'd like to see them lean on something other than shovels and our pocketbooks.

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Treatment of Herpes Zoster

At the risk of undue repetition, it is not out of order to mention the apparently favorable effect of hypodermic pituitrin upon herpes zoster. The relief of pain in this annoying and occasionally disabling affliction is reported to be spectacular in many instances. Unbiased observation in large series of cases has in recent months apparently established the procedure as worthy of routine trial (except during pregnancy). One to three one c.c. injections relieve the pain in many instances and at least will confirm or deny its efficacy.

POLLUTION OF THE ANIMAS RIVER

J. ROSSLYN EARP, Dr. P. H.*
SANTA FE, NEW MEXICO

Four rivers in New Mexico are polluted by domestic sewage. The Pecos river is polluted by raw sewage from the city of Carlsbad. A sewage treatment plant has been recommended to the city council and prospects of securing one are reasonably good at the present time. The Rio Grande is polluted by treated domestic sewage from removed by natural purification within eight or ten miles of the river's flow. The Gallinas river is polluted by untreated sewage from Las Vegas. A WPA sewage treatment plant is under construction. *The public health menace from the pollution of these three streams is small in comparison with the menace to public health created by the pollution of the Animas river with raw sewage from the city of Durango, Colorado.*

The city of Farmington, New Mexico, uses this polluted water. There are wells available to the city, but the water from them is so hard and so rich in sulphates that it is used only in emergency. Numerous rural inhabitants in San Juan county also use the polluted water for drinking purposes. To them it is the only practical source of drinking water.

The New Mexico Bureau of Public Health was created by the legislature of 1919. Bearing this date in mind it is of interest to quote from a letter of Dr. G. S. Luckett, then state health officer, under date February 1. 1923:

"For the last three years we have observed a continuous prevalence of typhoid fever along the course of the rivers named. Early in 1920 we began to suspect that there was some pollution being introduced into the rivers, which was producing this condition. Our sanitary engineer investigated the matter and felt that the source of pollution lay in Colorado. During the past summer he made a thorough examination of the entire course of the rivers, from Silverton, Colorado, to the Shiprock Agency. This investigation showed that raw sewage was being poured into the river at both Silverton and Durango, Colorado."

A copy of this report by Mr. H. F. Gray has been presented to the New Mexico State Planning Board as an historical record.

The Bureau's next step was to prepare a bill for presentation to the 1923 New Mexico legislature calling for an appropriation with which to equip a local bacteriological laboratory for further research on pollution of the Animas river. The bill was given to the representative of San Juan county to sponsor. Its introduction resulted in violent opposition from one of the San Juan county newspapers which suspected that the State Bureau of Public Health was seeking to derive "graft" from the state treasury. As a result the bill was withdrawn. The appropriation for laboratory work was subsequently made by the San Juan county commissioners instead of by the state.

In those days, when my predecessor was struggling to protect the interests of the people of San Juan against their own misconceptions, feelings must have been running high. Let me quote just once again from Doctor Luckett's letter:

"Just exactly why any one should object to having this source of danger to your community removed is beyond our understanding, unless some people prefer to drink diluted sewage for the added taste that it gives the water. We should expect the people of your community to be enthusiastically pushing this measure, which is intended solely for their protection. If we had not been interested in doing a thorough job we should never have suggested it, for our salaries would go on just the same and we should have much more time to enjoy our mountain scenery. But we are here to reduce preventable sickness and death in this state to a minimum and we propose to do it as efficiently as we know how, attacking every source of infection and removing it as fully as we can with our limited resources."

*Director, New Mexico Bureau of Public Health.

From the Colorado side of the line an investigation was made by Dr. Hugh F. Lorimer who reported to Dr. Tracy R. Love, then secretary of the Colorado State Board of Health.

The conclusions of Doctor Lorimer's report, dated January 17, 1923, are as follows:

"1. Mr. Gray's visit to Durango was well received, and he enjoys the confidence of the officials of Durango and any reasonable request on his part will no doubt reflect in hearty cooperation with Durango.

"2. His report was gone over by me to the mayor, city manager and assistant city attorney and pronounced by them reasonable in requests.

"3. I found the city officials willing to cooperate and eager to carry out any reasonable measures to protect their neighbor to the south.

"4. I started out on this trip opposed to any more officials on the Colorado State Board of Health, but New Mexico evidently could put us to shame on Public Health matters. If any state needs a sanitary engineer, Colorado certainly does.

"5. I would recommend your Board to communicate at once with Durango officials and also with the Secretary of Bureau of Public Health of New Mexico saying that your Board heartily approves of their cooperation and endorses such measures as they mutually agree upon and that your Board signifies to the Public Health Officials of New Mexico its approval of their reasonable, intelligent and efficient request."

It is a pleasure to be able to say here that the Colorado State Board of Health has from the first and right down to the present time shown the finest spirit of cooperation with New Mexico. If nothing has ever been done to correct the situation in Durango I am sure that it is not the fault of the Colorado State Board of Health.

The setting-up of the field laboratory at Aztec was followed by a joint survey made between November 18, 1923, and November 13, 1924, by the sanitary engineers both of Colorado and of New Mexico. Their findings were published in the Journal of the American Water Works Association in 1926*. In summary their conclusions were as follows:

"1. The sewage from Silverton, Colorado, is of little importance to communities lower down the valley, due to the excellent purification which takes place before the river water reaches Durango. The sewage load is small and the volume of stream flow is large.

"2. Durango introduces untreated sewage into the river which gives an average total count of 743 bacteria per cubic centimeter and 11,700 B. coli per 100 cubic centimeters. At Riverside, New Mexico, these figures are reduced to 246 and 1280, respectively. This shows a marked degree of self-purification. From Riverside to Farmington the total count increases from 246 to 542 per cubic centimeter and B. coli decreases from 1280 to 695 per 100 cubic centimeters. These results indicate the marked and rapid self-purification of the stream. However, this is usual in swift mountain streams of this character. Due to the rapid flow of the stream, and considering that B. coli is present in the water at Aztec and lower points at times, we are justified in believing that the discharge of untreated sewage by Durango into Las Animas river constitutes a nuisance and menace to public health.

"3. Colorado citizens living in Las Animas valley below Durango are also practically dependent upon Las Animas river water for domestic use. The results of this investigation indicate that the river in this section is highly polluted and unsafe for domestic consumption without proper filtration and sterilization."

It remains only to detail what has been done since and to show its effect on the typhoid morbidity rate. The municipal water supply of Farmington has been chlorinated since 1928. Instructions as to the methods of sterilizing water supplies in cisterns were drawn up and mimeographed in 1921 and

*Kepner and Fox: Pollution of the Las Animas River. Jour. A.W.W.A., Vol. 16, No. 1, 1926.

have been widely circulated in San Juan county. A copy of these mimeographed instructions has been passed around. Active immunization with typhoid vaccine has been and still is offered by the county (now district) health department. Some hundreds of the inhabitants receive a course of vaccine every year.

Typhoid morbidity rates for San Juan county and for the state of New Mexico are available for three five-year periods and are as follows:

CASES PER 100,000 POPULATION

	San Juan County	New Mexico
1921-25	204	108
1926-30	180	82
1931-35	168	83

The reporting has probably improved a great deal since the first five-year period. Such indications as this of incomplete reporting are found in our correspondence files:

"You say that you have had twelve to fifteen cases of typhoid along the river. Our records in this office show that you have reported only ten cases for the entire county, during the past year."

"You say that Dr. Sammons tells you that there are six cases of typhoid in Farmington. We have only four cases reported to us all year."

This is taken from a letter of Doctor Luckett's to the then health officer under date August 2, 1922.

Is is probable then that the decline in typhoid morbidity in San Juan county and perhaps also in the state of New Mexico has been greater than the official figures indicate. Yet in 1934 there were reported fifteen cases of which six are attributed by the present health officer to drinking polluted Animas water and in 1935 there were seventeen cases of which four are assigned by the health officer to Animas infection.

What has been done in Durango? Exactly nothing. There are various expressions of good intent to be found in our correspondence files but the fact is that the whole of Durango's domestic sewage is still dumped untreated into the Animas river. When you come right down to it why should the people of Durango pay good money to protect the health and lives of the citizens of New Mexico?

"I am thoroughly convinced," writes the county health officer on September 1, 1925, "that we will have to take legal action if we ever get results."

On November 9, 1932, I wrote to his successor my own conception of the form which legal action might take, as follows:

"It seems clear that the joint report of the Colorado State Board of Health and the New Mexico Bureau of Public Health has established the danger to the residents of San Juan county from pollution of the Animas river and also the responsibility of the city of Durango for that pollution.

"It would seem to me that under these circumstances if any citizen of San Juan county should acquire typhoid fever by drinking water from the Animas river and should bring suit for damages against the city of Durango he would have a very strong case. You will remember that the city of Olean, New York, has been obliged to pay in very recent years as much as $425,000 in settlement of claims of its own citizens who contracted typhoid fever through the pollution of the city water supply."

But nobody has yet taken the hint. Still sewage goes into the river in Colorado and disease and death are drawn from the river in New Mexico. Is there anything that a regional planning board might be able to do about this?

Solution of potassium arsenite is apparently an effective palliative agent in the treatment of chronic myelogenous leukemia. —Annals of Internal Medicine.

Convalescent measles serum given just before and within six days after exposure usually prevents the disease; serum between the sixth and tenth days as a rule modifies the severity of the infection; serum given after the onset of the infection (most frequently on the tenth day), is without beneficial effects.—Annals of Internal Medicine.

LIVER FAILURE

A CAUSE OF UNEXPECTED POSTOPERATIVE AND ORGANIC DEATH*

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There are baffling cases of sudden unexpected death in the experience of every physician. The patient is apparently not acutely ill when suddenly high fever and apathy occur progressing rapidly to coma and death. Ordinary supportive measures and vigorous stimulation are futile. No signs or symptoms of any cause are discernible and at necropsy the pathologist is unable to find sufficient morbid organic change to throw light on the etiology. The death certificate necessarily implicates "acute heart failure," "shock," or "apoplexy." It is the purpose of this paper to consider the accumulating evidence which points to liver failure as the cause of many of these deaths.

Clinical Considerations

Speculations as to the cause of these deaths, but without proof, are found in the first medical publications on these deaths and their contribution consists chiefly of descriptions of the clinical syndrome and the course of terminal events[1, 2, 3]. In more recent literature classifications of this syndrome are variously based on chronicity, immediate pre-operative prognosis, and postmortem pathology. This pathology is prevalently termed hepatic autolysis or necrosis (Figs. 1 and 2) with or without renal damage and predominantly toxic symptoms[4, 5, 6]. For reasons mentioned below, it is suggested that another group be added, that of functional insufficiency, decidedly not toxic in type. Graham[7] and others[8] began to suspect, and presented evidence supporting the conception, that unexplained deaths following surgery were not due to the anatomical relation of the operation to the liver but due to the type of liver failure which is herein being considered.

By this realization and the application of routine liver function tests, Graham, who developed the iso-iodeikon dye-retention test for liver function and gallbladder x-ray examination, was able to lower his surgical mortality from 6 to 0.4 per cent for cholecystectomy and 7.7 to 2 per cent in common duct operations[9]. Other surgeons have reported similar success[10, 11].

Although the higher incidence of this type of sudden and unexpected death in bile tract surgery led to its recognition, the latter is not the only condition in which this characteristic fatality occurs. It is now realized that a similar syndrome, identical in all its clinical features and showing the same necropsy findings, is associated, not infrequently, with surgery in other parts of the body, death from burns, pancreatitis, traumatic injury to the liver, drug poisoning (dinitrophenol, apiol, etc.), high intestinal obstruction, profoundly toxic acute infectious diseases, and certain long-standing debilitating toxemias.

The death of patients afflicted with tuberculosis who succumb suddenly and unexpectedly with the terminal syndrome picturned above may be due to liver failure[22, 23]. Necropsy of these cases fails to disclose any other cause. Such deaths are frequently attributed to "tuberculous toxemia." What is a profound suddenly fatal tuberculous toxemia? How does it affect a fatal termination? Could it not be due to injury to the hepatic cells beyond the limits of their physiological reserve? These questions might as appropriately be directed toward malignant conditions.

Correlation of clinical observation with animal experimentation is shedding considerable light on the mechanism of this type of liver failure.

Experimental Considerations

Three types of experiments have been successful with dogs. Complete removal of the liver after shunting the portal blood through a modified Eck fistula into the vena cava results in a type of liver insufficiency signified by subnormal temperature, rapid progressive muscular weakness, lowered

*Read before the Pueblo County Medical Society, November 5, 1935. An extensive list of references will be included in the reprints of this paper.

blood pressure, coma, convulsions, and exhaustive death[12].

The second experiment utilizes the intraperitoneal injection of sterile autolysed liver tissue which causes a non-infectious autolytic peritonitis associated with a different syndrome, namely, **high fever,** muscular weakness and more rapidly fatal coma[13, 14]. These observations support an hypothesis that some substance released from necrotic liver cells is extremely toxic to otherwise normal animal tissues.

The third and most astounding experiment is that reported by Boyce and McFetridge of New Orleans[14]. They produced a syndrome, identical to that described for human cases of liver failure and characterized by weakness, high fever, coma and death with autopsy findings of degeneration and necrosis of liver cells and **kidney tubule** cells. Biliary obstruction by ligation in their animals produced no harmful or lethal effects, but only an increasing jaundice[15]. However, after several weeks when a second operation was performed by which this obstruction was completely released and the bile permitted to flow suddenly from the body through a duct fistula, jaundice decreased, but the animal became listless and apathetic. Oliguria progressing to anuria set in with the appearance of albumin, casts and red blood cells in the urine. No gastrointestinal symptoms were noted. Coma ensued terminating fatally within ninety-six hours. During this time the total non-protein nitrogen of the blood rose to levels as high as 171 mg. per 100 c.c. Autopsy ruled out peritonitis and pneumonia, but in the liver and kidneys were found areas of central necrosis and degeneration with vacuolation of the liver cells and necrosis of the convoluted tubule cells accompanied by interstitial hemorrhages and engorgement of the renal vessels—precisely the same changes as described for the human cases [14, 16]. No cholangitis or hepatitis could be demonstrated. These investigators were further able to produce the same changes in dogs by injection of a saline or watery extract of the liver from a human patient presenting this typical terminal snydrome following cholecystectomy. As they conclude, this evidence points to the possible cause of liver death after cholecystectomy or removal of a common bile-duct stone, in human beings, **as due to the release of the obstruction and not to the effects of the obstruction itself or to the jaundice.**

We should not forget that the symptoms produced experimentally and those observed clinically in these syndromes are very similar to those following adrenalectomy in animals [17]. There is, apparently, a close relation between liver function and the activity of the adrenal cortex, and injury to the liver may be reflected in damage to the adrenals. Another prominent relationship between endocrine glands and the liver in this condition is pointed out by Crile, Rowe, Weller, and others who have found clinically and experimentally that the liver is more easily damaged in hyperthyroidism than in other diseases[18, 19, 20, 21]. They find that the incidence of hepatic necrosis at autopsy is at least twice as high in cases of hyperthyroidism as in others.

Pathologic-Physiology

The approach to the practical clinical application of the foregoing observations can only be made by a brief review of the present knowledge of liver physiology, the complicity of which is realized by referring to Table 1. The most important relations of hepatic activity in carbohydrate metabolism are shown in Diagram I, a modification of that published by Cori and Cori[24], and emphasizes the role of the liver.

TABLE I—FUNCTIONS OF THE LIVER

A. Carbohydrate Metabolism
   1. Storage of glycogen
   2. Glycogenesis—from glucose
      levulose
      galactose
      lactic acid
   3. Glycogenolysis—liberation of glucose into the blood
   4. Hydrolysis of maltose
   5. (Conjugation of pentoses ?)

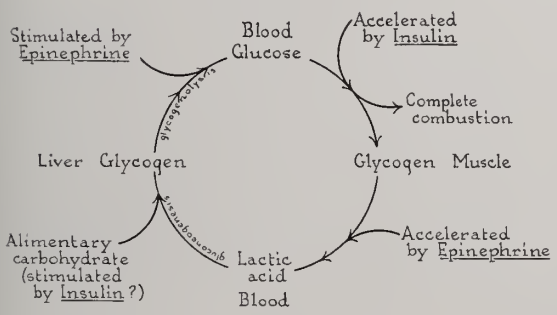
B. Protein Metabolism
   1. Deaminization of amino acids
   2. Formation of urea
   3. Formation of allantoin and destruction of uric acid
   4. Production of plasma proteins (?)
   5. Conjugation of toxic protein decomposition products to glycuronates

C. **Lipoid Metabolism**
   1. Desaturation of fatty acids
   2. Synthesis of cholesterol (?)
   3. Synthesis and hydrolysis of cholesterol esters
   4. Excretion of cholesterol and lecithin in the bile
   5. Production of bile acids (from cholesterol ?)

D. **Excretion of bilirubin and formation of bilirubin from urobilinogen**

E. **Miscellaneous Activities**
   1. Production of heparin (anticoagulant)
   2. Filter for bacteria in portal blood stream
   3. Conjugation of toxic phenols to ethereal sulfates
   4. Production of an erythropoietic agent
   5. Production of immune bodies (Kuppfer's cells)
   6. Activity in anaphylaxis (?)

DIAGRAM I



With the exhaustion of glycogen stored in the liver, the glucose content of the blood stream may be lowered to a level which starves all tissue cells, especially those of the liver [25, 26]. A damaged liver fails to detoxify phenols and protein decomposition products. Such a state permits these toxins to circulate freely throughout the body unless proper therapy (gluco-therapy, etc.) is instituted. If then the highly toxic disintegration products of degenerating liver and other tissues add to the strain on the already over-taxed hepatic cells, not only are the hepatic cells injured but damage may accrue to the adrenal cortex, kidney tubule cells, and possibly many others not yet discovered by our present histological methods.

It is well known that the amount of liver which may be removed anatomically without changing the systemic metabolism of the experimental animals is from 70 to 80 per cent (anatomical margin of safety). This does not mean that its **physiological** behavior possesses a comparable margin of safety. By what percentage may the metabolic processes of all individual hepatic cells be impaired without resulting in grave consequences? This is a difficult question to answer because it involves researches based upon measurements of liver function, most methods for which are still in the experimental stage and not fully developed[27]. Furthermore, many functions are yet not clearly understood. However, available experimental evidence justifies the presumption that this **physiological** margin of safety is a great deal less than the anatomical reserve. Thus, certain pathologic lesions may completely destroy or replace 80 per cent of liver tissue (cirrhosis, amyloid, fat, etc.) without noticeably interfering with its role in body economy if the remaining 20 per cent is uninjured. But any toxic insult just sufficient to upset irreversibly the delicate metabolic equilibrium of all hepatic cells will result in immediate suspension of their vital functions.

Therefore, it becomes important to inquire into the types of liver injury which are subclinical* in that they do not produce symptoms, but, nevertheless, gravely deplete the physiological reserve for any added strain. In certain cases the hepatic cells may possess sufficient capacity for just carrying the normal load of detoxification required by existing physiological demands, but be entirely unable to cope with the added strain due to surgery, trauma, or disease, no matter how trivial. These circumstances may conceivably start a vicious cycle because they initiate degeneration of more and more liver cells, the decomposition products of which, in turn, increase the toxic load of an already over-taxed organ.

There are many agents which will cause subclinical liver injury, but these are readily separated into metabolic disturbances and infections. The metabolic include depletion of glycogen reserve, metabolic exhaustion due to disorders of endocrine origin, and debilitating toxic diseases (Figs. 3 and 4). Fatty changes in the liver are probably metabolic in origin and cannot but decrease hepatic reserves. Amyloid deposition, cirrhosis, invasion by tumor tissue with resulting

*This term is employed to designate those injuries not yet extensive enough to cause clinical signs.

pressure atrophy, longstanding chronic passive congestion, and other such factors when sufficiently diffuse may produce low or exhausted physiological reserve. In the infectious group must be included any mild hepatitis which almost always accompanies cholecystitis[28] (Figs. 5 and 6), cholangitis (Figs. 7 and 8), chronic diseases such as syphilis, and tuberculosis, and other longstanding chronic infections of a systemic or organic nature. The most common sign of liver damage, jaundice, unfortunately does not appear until toxic changes are profound or biliary obstruction somewhat advanced and previous clinical signs of hepatic injury are absent.

An epitome of the pathological physiology of the production of jaundice is now pertinent.

Table II—JAUNDICE

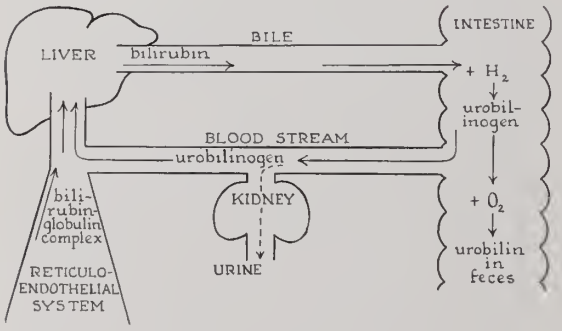
Hemolytic

1. Bilirubin-globulin complex in blood (Poorly diffusible)
2. Excessive hemolysis
3. Normal bile acids and cholesterol in blood
4. Late appearance of bilirubin and urobilinogen in urine
5. Late jaundice
6. Indirect van den Bergh

Obstructive

1. Free bilirubin into blood (Readily diffusible)
2. Reabsorption of bile
3. Excess bile acids and cholesterol in blood
4. Earlier bilirubin and urobilinogen in urine
5. Earlier jaundice
6. Direct van den Bergh

DIAGRAM II



Jaundice

The normal physiological cycle of bile formation, excretion and reabsorption is depicted in Diagram II. As Barron points out, the quantity of bilirubin (which causes the tissue staining in jaundice) in the circulating blood depends upon:

1. The number and rate of destruction of erythrocytes.
2. The function and activity of the reticulo-endothelial cells of the entire body.
3. The function and activity of the polygonal hepatic cells in excreting bilirubin.
4. The patency of the bile passages[29].

It is also apparent from Diagram II that an increased rate of destruction of red blood cells, failure of the hepatic cells to function in excreting the bilirubin or an obstruction of the bile passages will produce varying degrees of jaundice. As outlined in Table II, in hemolytic jaundice, it is not bilirubin but the **bilirubin-globulin complex** which is liberated excessively into the circulation, in fact, in larger amounts than can readily be excreted by the liver cells. The bilirubin-globulin compound is very poorly diffusible (the molecule being much larger than that of bilirubin alone), which fact accounts for the later appearance of bilirubin and urobilinogen in the urine. Visible jaundice is also late and the van den Bergh reaction is indirect for the same reason.

On the other hand, the obstructive type of jaundice causes a direct* van den Bergh reaction, early jaundice, and still earlier appearance of bilirubin and urobilinogen in the urine since only simple bilirubin is involved. It is more easily diffusible, and is excreted more readily. Furthermore, excessive quantities of free bilirubin, bile acids and cholesterol are found in the blood, accruing from reabsorption of bile into the blood stream. Thus, the different manifestations of these two types of jaundice are considerably influenced by the difference in the bilirubin compound involved. Edema of the bile-duct epithelium, cholangitis, impaction of stones, or pressure occlusion by tumors may produce obstructive jaundice by forcing the reabsorption of simple bilirubin. The hepatogenous form of jaundice is produced by simple failure of liver cells to dissociate bilirubin from its globulin com-

*The direct reaction involves immediate oxidation of free bilirubin by the diazo reagent (red color), whereas no such reaction occurs with the bilirubin-globulin complex until the protein is precipitated by alcohol, thereby liberating bilirubin. This is the indirect reaction.

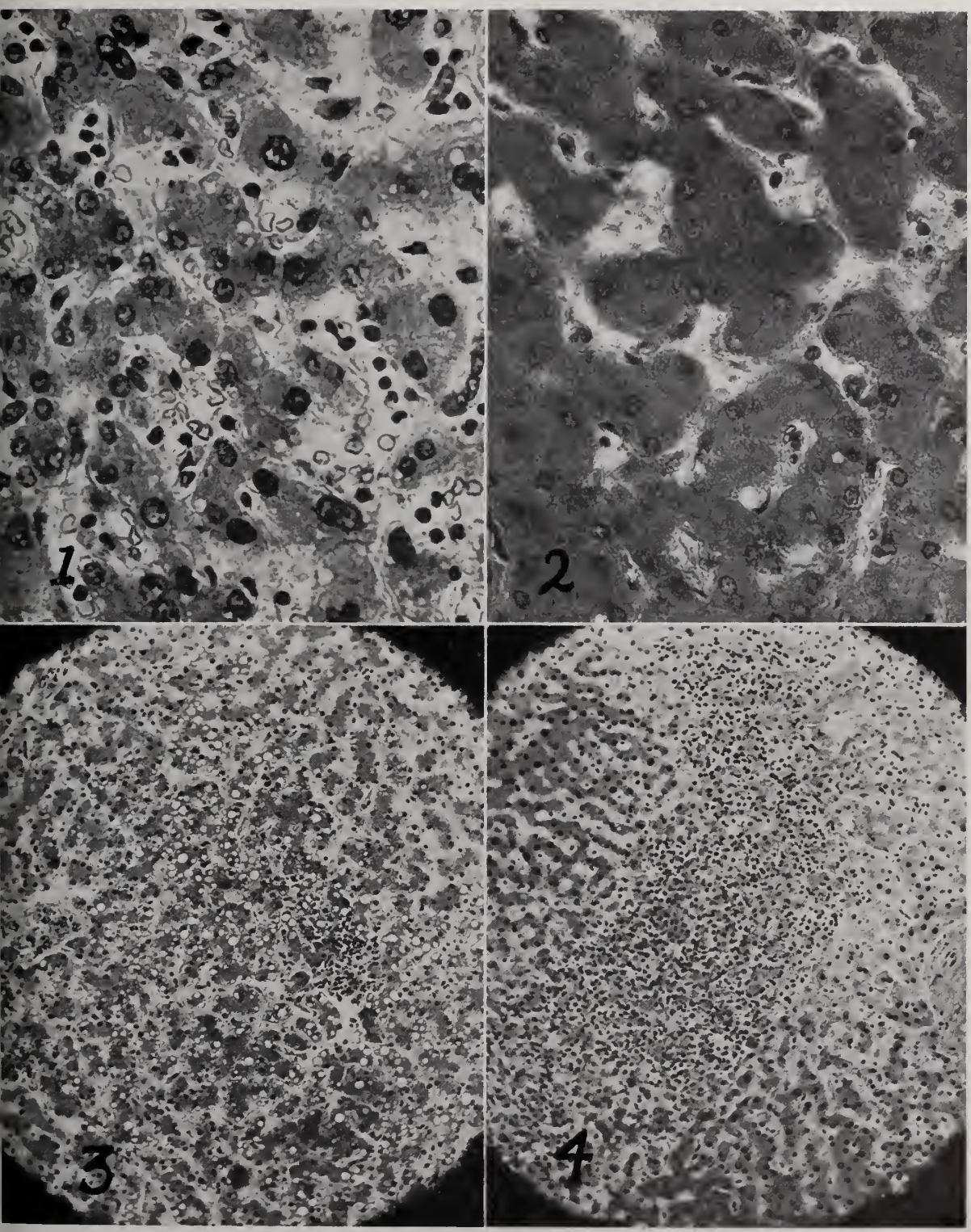


PLATE I

Fig. 1. Toxic changes in hepatic cells: Early granular degeneration and vacuolization of cytoplasm; hypertrophy, size variation, swelling, and pyknosis of nuclei. (High power.)

Fig. 2. More advanced cytolysis of liver cells. (High power.)

Fig. 3. Injury of the liver: Diffuse toxic vacuolization and granulation of cytoplasm; diffuse larger fat vacuoles; nuclear pyknosis, focus of leukocyte collection. (Low power.)

Fig. 4. Focal necrosis of the liver: Necrosis of polygonal cells with infiltration of polymorphonuclear leukocytes. (Low power.)

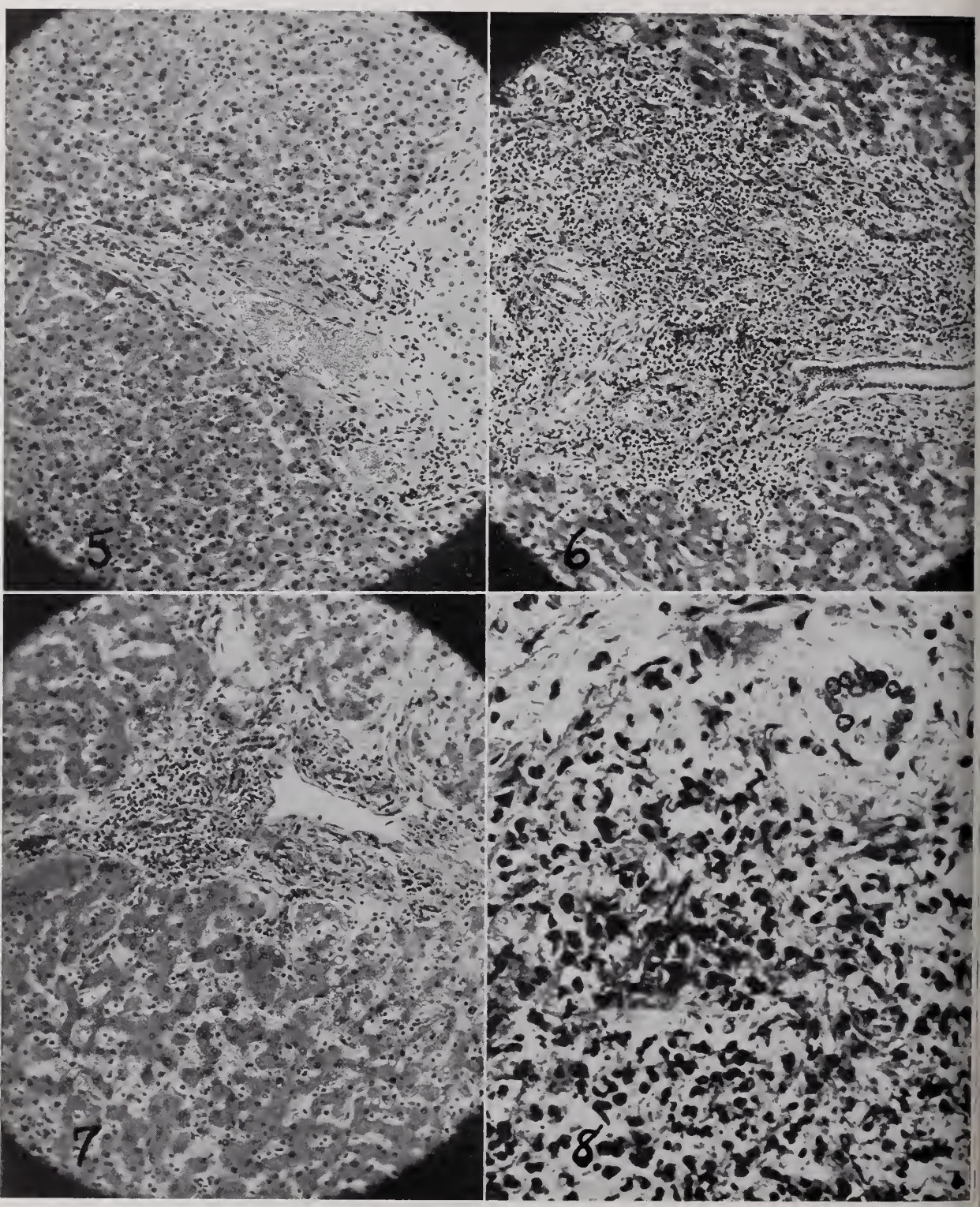


PLATE II

Fig. 5. Normal liver: Compare portal structures with those in Fig 6. (Low power.)

Fig. 6. Cholangitis with hepatitis. The infiltration of inflammatory cells in the portal structures is extending into the parenchymal tissue. (Low power.)

Fig. 7. Cholangitis: Early peri-ductal inflammation without involvement of hepatic cells. (Low power.)

Fig. 8. Advanced cholangitis: Marked peri-ductal accumulation of leukocytes. (High power.)

pound and to excrete it. This may result from diseases which injure hepatic cells for this specific function, or from those diseases in which there occurs increased liberation of bilirubin-globulin by reticulo-endothelial cells.

One further point must be emphasized. Liver cells which are partially damaged in their ability to store glycogen, detoxify metabolic by-products, etc., apparently still are able to separate normal amounts of bilirubin from its globulin complex and excrete it into the bile.

Diagnosis

Diagnosis of the presence and degree of liver damage is becoming more and more feasible, but cannot be expected from the results of a single test. As has been reiterated by others, *an organ which has the large number of important and vital duties, now well established for the liver, cannot be functionally quantitated by a test which measures only one of these numerous activities.* Only by the application of three or four liver function tests together and careful correlation with clinical observations can one expect findings which are confirmed by the subsequent progress of the patient, as regards liver failure or recovery[30]. It may be necessary on occasion to repeat three or four tests at appropriate intervals in order to follow the progress of a case and to determine the prognosis in relation to the *advisability* of surgical intervention.

The following list of liver function tests is presented in the order of their efficiency as reported in the literature by numerous investigators and according to the soundness of the physiological and biochemical principles utilized.

LIVER FUNCTION TESTS

1. Bergemann-Barron bilirubin tolerance curve.
2. Oxycinchophen excretion curve (Lichtman).
3. Benzoic acid conjugation ability (hippuric acid excretion—Quick).
4. Twenty-four hour urea excretion.
5. Quantitative van den Bergh reaction (modification of Tannhauser and Anderson).
6. Iso-iodeikon retention (Graham and Colephenol-tetraiodophthalein).
7. Blood diastase level (Somogyi).
8. Free cholesterol—cholesterol ester ratio of blood.
9. Blood fibrinogen concentration.
10. Bromsulphalein retention (Rosenthal and White).
11. Urobilinogen excretion.
12. Glucose tolereance curve and effect of adrenalin on this curve. (Effect of insulin and epinephrin on blood sugar).
13. Bilirubin excretion in the urine.
14. Galactose or levulose tolerance tests.
15. Blood lactic acid tolerance curve.

The first six or seven tests give the most information according to present reports. It is not the purpose of this paper to describe their technic, but to explain only enough of the principles involved to aid in a selection of tests applicable to various cases[31].

The bilirubin tolerance test first applied in this country by Barron seems to give the best results in early liver disease or functional injury. It is a quantitative measurement of the ability of the hepatic cells to excrete bilirubin. This is accomplished by administering a given solution of sterile bilirubin intravenously and by colorimetrically measuring the amount retained in the blood stream each hour for four hours. In normal cases within two to four hours all the injected bilirubin has been removed from the blood by the liver. Liver damage is indicated when there is a retention of 10 per cent or more at the end of four hours.

The principle of the next test, described by Lichtman, is the ability of the liver cells to convert toxic cinchophen to non-toxic oxycinchophen. After the oral administration of cinchophen the excretion of oxycinchophen in the urine is colorimetrically measured hourly for several hours. The ratio between the amount administered and that excreted as oxycinchophen is a measure of the ability of the liver to detoxify this substance.

The third (very recent) test measures the ability of the liver cells to conjugate benzoic acid with glycin to form hippuric acid which is excreted in the urine. The amount excreted is correlated with the amount of benzoic acid ingested. This test has proved reliable and sensitive for induced liver injury in dogs and also has been successfully applied to human cases by Quick.

Test No. 4: The liver is the site of urea formation in man[32]. It is, therefore, logical to suppose that any damage to the ability of the liver to synthesize compounds such as urea and allantoin may be measured by

determining the amount of urea and allantoin excreted in twenty-four samples of urine and relating this to the normal excretion of these compounds by the same patient.

The remaining tests of the foregoing list will not be discussed because prodigious liver damage must be present to make most of them applicable[33].

Treatment

Upon what procedures can we rely to build up an impaired reserve capacity of the liver? Are there certain basic principles upon which such therapy may be based? Some of the more effective procedures and underlying rationale are as follows[34].

Forcing fluids in large quantities by all routes. This dilutes excessive toxins in their passage through the liver, adrenals, and kidneys, and promotes excretion of these harmful substances.

Intestinal elimination by mild saline catharsis. Undesirable absorption of putrefaction products is thereby avoided.

Reducing ingested proteins to diminish the load of toxic protein decomposition compounds on the liver cells.

Increasing carbohydrate intake by large amounts (by vein, by bowel, and by mouth). This may rapidly build up liver glycogen reserve and combat catabolic degeneration of liver cells.

Administering large amounts of calcium intravenously as the gluconate when urgent (otherwise gluconate or lactate by mouth). This apparently stimulates liver functions and speeds its recovery.*

Giving dilute hydrochloric acid by mouth to replenish blood and tissue chloride depletion. This also helps to maintain normal water balance. The acid, further, greatly aids intestinal absorption of calcium.

Injected adrenal cortex extracts intramuscularly. If available in biologically active preparations, such extracts will definitely aid in supporting the patient's overtaxed adrenals. Ingestion of adequate quantities of *sodium ions* (best given as sodium citrate) is of equal importance for promoting function.

These principles of treatment are equally valuable in pre-operative rehabilitation of physiological hepatic reserve and postoperative promotion of liver metabolism. Of course, appropriate therapy for the liver may be routinely prescribed for all pre-operative cases and in the case of all postoperative and toxic patients with decided benefit and without the inconveniences of liver function tests. Such therapeutic conduct, nevertheless, is unscientific and hazardous when applied without discretion, because no knowledge is gained of the patient's hepatic reserve capacities nor is the period of treatment required to add to the safety of modern surgery determined. Furthermore, no contribution is made to the sum total of knowledge concerning this recent and most important problem of diagnosis and treatment.

Summary

1. Evidence is now quite conclusive that many of the unexplained and unexpected postoperative deaths with high fever and prostration are due to liver failure.

2. The syndromes characterizing these deaths are divided into three classes: (a) those in which there is a sudden onset with high fever, coma, and rapid death, without signs of uremia; at necropsy, only necrosis of liver cells is found; (b) those in which there is a similar picture with later onset and longer duration, with more gradual increase in symptoms including signs of uremia before death; autopsy discloses liver damage of varying degree accompanied by degeneration of renal tubule cells; (c) those cases in which slowly increasing exhaustion, muscular weakness, subnormal temperature and decreasing blood-pressure progress to terminal vascular collapse, coma and prostration. Necropsy findings may be slight, but usually show some ante-mortem change of the liver cells, if not definite necrosis.

3. It is pointed out that liver deaths are not limited to postoperative incidence but also occur in many organic diseases of chronic debilitating nature, acute toxemias, liver trauma, and certain drug poisonings.

*This action of calcium in promoting liver metabolism is not yet understood but, nevertheless, is of emperically proved value, even in animal experiments[10].

4. The pathological physiology and biochemistry of these deaths is discussed.

5. It is emphasized that liver functions cannot be quantitatively determined by any single test, but that several reliable tests simultaneously performed are required. Certain of these tests are briefly discussed.

6. The incidence of so-called "liver-death" may be markedly lowered by avoiding surgery in cases found to possess low physiological hepatic reserves and by rehabilitating the livers of these patients. Postoperative support of liver function is also emphasized.

7. The biochemical principles of treatment are presented.

8. Wider application of various liver function tests and cautious correlation of their findings with the subsequent clinical progress of patients are desirable if sufficient knowledge concerning the hepatic etiology of these deaths is to be gained and further preventive and therapeutic procedures developed.

ROCKY MOUNTAIN SPOTTED FEVER

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This "typhus-like" Rickettsial disease was described and differentiated clinically by Dr. E. E. Maxey of Boise, Idaho, in 1899, although it had been known to occur in Montana as early as 1872 and in Colorado in 1885. He suggested the name "Spotted Fever" be given the disease, and it later came to be known as Rocky Mountain Spotted Fever due to its prevalence in certain sections of the Rocky Mountains of Montana. But this name gives a wholly erroneous impression of its occurrence and distribution, as the disease is not limited to the Rocky Mountain States, but at the present time has endemic areas in over thirty States.

Until 1905, Rocky Mountain Spotted Fever was known to exist only in endemic areas of the Rocky Mountain States. In 1915, a case was reported from North Dakota, and in 1920 cases were reported from endemic areas in California. Until 1928, there had been an increase in the number of endemic areas, but limited chiefly to the Rocky Mountain and Pacific States. In 1931, Dyer, Rumreich, and Badger of the United States Public Health Service demonstrated the presence of the infection in many rural sections of Maryland and Pennsylvania. Since then, cases have been reported annually from thirty States, the highest incidence outside of the Rocky Mountain region occurring in the Southern and Eastern States, from which Typhus Fever had long been reported. This would lead one to believe that Rocky Mountain Spotted Fever had been present for a number of years preceding its recognition, but had been reported as Typhus Fever. However, it is quite likely that the virus of Spotted Fever had been present in nature in these areas many years before man became infected. There is a striking similarity between the symptomatology and pathology of Typhus and Rocky Mountain Spotted Fever. The Weil Felix reaction is also positive in both diseases. The infection and immunity tests, with guinea pigs as test animals, have been employed by a few laboratories in sections where these diseases might be confused. There is apparently no existing cross-immunity between the two.

The Eastern type and Western type of Rocky Mountain Spotted Fever exhibit no characteristic differences. However, the American "dog tick," Dermacentor Variabilis, is the principal vector of the Eastern type, and the "wood tick," Dermacentor Andersoni, is responsible for the transmission of the Western type. Dermacentroxenus Rickettsii is recognized as the etiological agent for both types.

Another type of fever also known to be transmitted by the wood tick, that has been known to occur in Wyoming and Colorado

*Dr. Cleere is Secretary, Colorado State Board of Health. This article contains information particularly valuable in this region relative to prophylactic measures against the disease.

for the past ten years, has been definitely established as a clinical entity by physicians of these States, and is commonly known as "Colorado Tick Fever." It is an intermittent fever with a shorter course, and much lower mortality rate than Rocky Mountain Spotted Fever, and is characterized by absence of rash. Only in the past three years has Colorado Tick Fever been reported as a separate disease to the Colorado State Health Department. Possibly a more accurate name for this disease would be "Non-exanthematous Tick Fever" instead of Colorado Tick Fever, as Dr. L. D. Fricks has suggested the name Rocky Mountain Spotted Fever be changed to "Exanthematous Tick Fever" in view of its wide distribution outside of the Rocky Mountain States.

There are several disseminated endemic areas of Rocky Mountain Spotted Fever in Colorado, as shown by Table I below, of the sixty cases reported from twenty counties to the Colorado State Health Department for the five-year period 1931-1935:

TABLE I

County	No. of Cases
Arapahoe	3
Boulder	7
Chaffee	1
Conejos	1
Delta	1
Denver	3
El Paso	3
Fremont	1
Garfield	4
Larimer	1
La Plata	1
Mesa	5
Moffat	18
Montezuma	1
Routt	1
Rio Blanco	4
Weld	2
San Miguel	1
Pueblo	1
Rio Grande	1
Total	60

Thirty-eight of the sixty cases, that have been reported during the past five years, have occurred in Moffat, Boulder, Garfield, Rio Blanco and Mesa counties.

TABLE II

Month	No. Cases Reported
March	1
April	13
May	29
June	13
July	4
Total	60

As can be seen, the height of the incidence occurs in May, with no cases being reported earlier than March or later than July.

TABLE III

Year	Cases	Deaths	Mortality Rate
1931	6	3	50
1932	15	6	40
1933	12	4	33
1934	4	2	50
1935	23	2	8.7
Total	60	17	28.33

The above table shows the mortality rate for the five-year period to be 28.33, although there is a marked discrepancy between the mortality rates of 1935 and the preceding four-year period. We have reason to believe that many more than sixty cases have occurred during this five-year period, but have not been reported to the State Health Department. It is likely that a greater proportionate number of cases were reported during the 1935 season. However, of the eight cases of Colorado Tick Fever reported since 1933, five were reported during 1935, which would indicate that possibly some of the twenty-three cases reported as "Tick Fever" or "Rocky Mountain Spotted Fever" could have been Colorado Tick Fever. This distinction should be made by physicians in reporting to the Health Officer or State Health Department. It is also likely that the strain of infection might have been milder during the 1935 season. This would bring up the question as to whether Colorado Tick Fever is caused by a separate virus or a milder strain of Spotted Fever Virus. Research work to determine this is being conducted under the direction of R. R. Parker, United States Public Health Service Laboratory, Hamilton, Montana. He earnestly requests that any such tick-borne infections be reported to this laboratory by attending physicians with a complete history and if possible accompanied by blood sample taken during acute illness and again during convalescence. Of the five cases of Colorado Tick Fever reported during 1935, four were from Boulder County.

The mortality rates vary from 80 in certain sections of the Bitter Root Valley, Montana, to less than 5 in some localities of Southern Idaho. The mortality rate for the

United States is approximately 25, that is, per 100 cases.

The infected tick harbors the virus in its egg, larvae, nymph, and adult stages of its two-year life cycle. This, plus the abundance of rodents and other hosts, has made attempts to control the disease by tick eradication seem impractical. The best method of control at present is the annual administration of vaccine to those living in infested localities, and also to those who visit such localities. The only laboratory preparing the Spencer Parker vaccine, the United States Public Health Service Laboratory at Hamilton, Montana, will furnish vaccine without cost to the physicians directly, or through the State Health Department.

The vaccine should be given at the beginning of the tick season in late winter or early spring. Persons whose exposure is occasional should be vaccinated at least ten days before first expected exposure. It can be administered subcutaneously or intramuscularly in two doses of 2 c.c. each, five days apart. Children under ten may be given 1 c.c. It is not usually necessary to vaccinate children too young to be out of doors.

No conclusive evidence has been submitted of favorable therapeutic results, so such use of the vaccine is not recommended. However, persons who become tick bitten should be vaccinated immediately if possible, as this will lessen considerably the severity of the disease.

The immunity responses usually do not last over one year. However, successive vaccination seems to increase the degree of immunity.

Although the control of Rocky Mountain Spotted Fever and closely related tick fevers cannot be considered as a major United States public health problem, they are a serious menace to the life and occupation of the people in certain localities. Also, due to its occurrence in scattered areas throughout the United States, and the abundance of reservoir hosts and vectors in these areas, its potential dangers are becoming recognized by public health officials.

REFERENCES

Parker, R. R.: Montana State Board of Entomology Report—1927-1928.

Bulletin No. 26, Montana State Board of Health, 1923. "Rocky Mountain Spotted Fever."

Public Health reports as follows:

a. Reprint No. 1452, 1931—An Infection of the Rocky Mountain Spotted Fever Type in the Eastern Part of the United States, by Badger and Dyer.

b. Bulletin No. 14, 1903—Spotted Fever of the Rocky Mountains—A New Disease, by Anderson.

Fricks, L. D.: 1935. Rocky Mountain Spotted Fever—Supplement to Tice's Medicine.

Riley and Halliday: 1932. Maryland State Department of Health; Rickettsial Diseases.

CASE REPORTS

PAROTID GLAND TUMORS

NOLIE MUMEY, M.D.
DENVER

These three cases are reported, not because of their rarity, but due to the fact that parotid gland tumors always present interesting clinical manifestations and baffling pathologic interpretations. The malignant tumors often show benign tendencies while the benign tumors frequently present features of malignancy.

Clinically, both types may recur after removal. Microscopically there appear mixed connective tissue and epithelial elements. Pathologists differ about placing the responsibility on either connective tissue or epithelial cells. These tumors commonly occur between the ages of twenty and forty-five years, with a greater incidence in white than the colored race. They are slow growing and usually exist a few years before relief is sought. The symptoms vary from severe pain to the appearance of a lump below the jaw, with an occasional history of trauma or infection.

Parotid gland tumors must be differentiated from mumps, salivary calculi, actinomycosis, other tumors of the jaw, Hodgkin's Disease, abscess of the neck, and Mikulicz syndrome.

The treatment is irradiation and surgery or a combination of both. The surgical removal of these tumors sometimes means sacrificing the facial nerve, with a resultant deformity.

CASE 1

P. M., a white male laborer, aged 39, sought relief from a large mass on the left side of his neck and jaw. It had existed for approximately eighteen years and appeared as a small lump below the left ear. The mass gradually grew larger, causing some pain and discomfort. Examination revealed a large movable tumor below the left ear and angle of the jaw. Under a general anesthetic it was removed by sharp dissection, without injuring the facial nerve.

Gross Specimen,* macroscopic: Specimen consists of a nodular mass of tissue measuring 8 cm. in diameter and rather firm in consistence. The section surface is grayish and translucent in appearance and of uniform texture.

Microscopic: Sections reveal masses of small epithelial cells, many of which are growing in an adenogenous formation supported by mucoid connective tissue. In other areas there are islands of cartilage cells in a homogeneous matrix while the epithelial elements occur in more compact anastomosing cords.

Diagnosis: Mixed tumor of the parotid.



Case 1. Before operation, showing parotid gland tumor.

CASE 2

J. W., a white male salesman, aged 28, complained of a swelling of the right side of his neck below the lobe of the ear. It came on rather suddenly, gradually getting worse, and persisted for eight months. An exploratory operation revealed an indurated tumor mass, which was fused with surrounding structures, making it difficult to remove. A section was taken for microscopical study.

Gross Specimen, macroscopic: The specimen consists of a mass of tissue 1 cm. in diameter which is slightly friable in consistency.

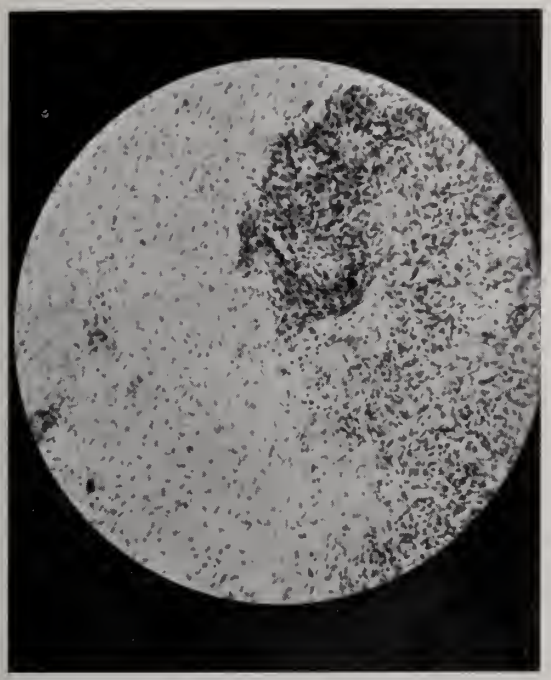


Case 1. After removal of parotid gland tumor.



Case 1. Photomicrograph of mixed tumor of parotid gland.

*Acknowledgment is made for the patholigical reports by Dr. A. W. Freshman and Dr. Paul Carson.



Case 1. Gross specimen of mixed tumor of parotid gland.

Microscopic: The section shows fibrous tissue. There are some areas of fat and muscle. Some areas show lymphocytes. There are two areas of very cellular connective tissue, and these cells vary from a spindle to a round type. It is felt that this is evidence of sarcomatous change.

Diagnosis: Mixed cell sarcoma.

The patient was given x-ray treatments. The mass entirely disappeared. There is still a difference of opinion as to the diagnosis which was made by various pathologists in Denver and at a distant city.

This patient is still under observation and continues to improve.

CASE 3

J. M., a white male, manager of a large supply store, aged 61, came because of a mass on the left side of his neck. He stated twenty years previously a tumor had been removed, but it reoccured six years after excision and has persisted for fourteen years, getting larger. His hearing had gradually become impaired from the growth. An incision was made through an old scar and a friable tumor was removed from the parotoid gland.

Gross Specimen, Macroscopic: Specimen consists of a mass 3 cm. in diameter and several smaller fragments. It is of medium consistency.

Microscopic: Sections are composed almost wholly of fibrous tissue which is fairly vascular. Here and there are seen small areas of parotid glandular tissue which appears normal except for the large amount of fibrous stroma surrounding the area. There is no evidence of malignancy. It cannot be definitely determined whether the fibrosis is of tumor classification (fibroma) or has been laid down as a result of past inflammation.

Diagnosis: Fibrosis of parotid gland.

This patient is well after four years and his hearing has gradually improved.

Resume of Case Reports

1. Three patients presented different types of parotid gland tumors:

a. One with a mixed cell tumor.

b. One with a doubtful diagnosis of sarcoma.

c. One with a diagnosis of fibrosis and a history of recurrence.

2. Two were treated surgically.

3. One was treated by x-ray therapy.

Resolution Adopted by the Joint Committee on Health Problems in Education of the National Education and the American Medical Association.

June, 1936.

Whereas, At the annual meeting of the Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association held at St. Louis, Mo., February 25, 1936, a presentation was made by Major Joel I. Connolly, of the Chicago Board of installations in public buildings, and

Whereas, It was manifest in the said presentation that plumbing fixtures which have been generally regarded as safe and sanitary in design may in fact constitute a real and serious health hazard by reason of the danger of back siphonage and contamination of water supply mains, and

Whereas, The probability exists that such apparently modern, safe and sanitary plumbing installations may exist in numerous school buildings in the United States, and

Whereas, The existence of such apparently safe, modern and sanitary plumbing installations and reliance upon them brings about a sense of false security, therefore, be it

Resolved, By the Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association that this Committee apprehends the possibility of danger to the health of school children from apparently safe, modern and sanitary plumbing installations in the school buildings, and be it further

Resolved, That the said Joint Committee earnestly recommends to all school boards and school executives that surveys be instituted by competent engineers to ascertain whether or not the danger of back siphonage and consequent pollution of water supply mains exist in plumbing installations within their jurisdictions, and that such surveys be followed by prompt corrective measures, and be it further

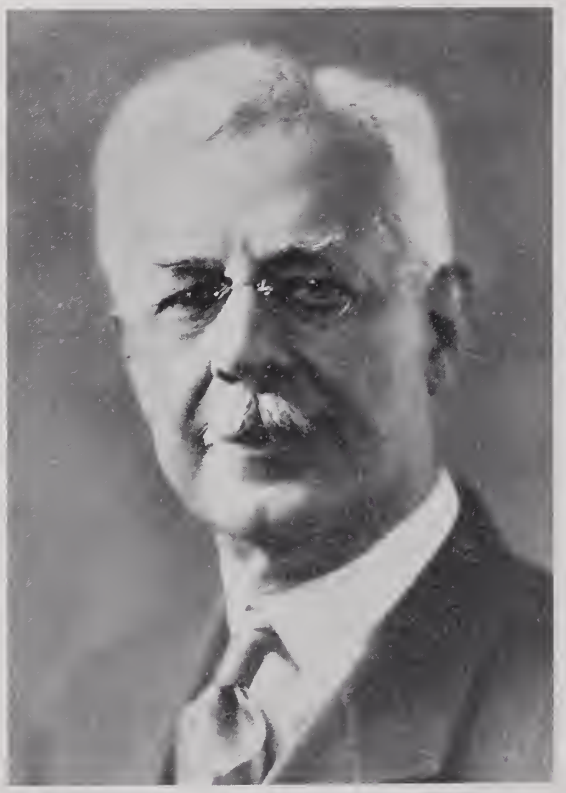
Resolved, That these resolutions be offered for publication to all journals dealing with public health, health education and general education.

Prostatis and spermatocystitis have come into prominence as foci of infection in the past ten years, and medical men no longer expect a history of gonorrheal involvement when such foci have been found associated with remote disease.—Urologic and Cutaneous Review.

Medical Organization

President-Elect Upham At Glenwood Springs

BOTH the Medical Society and its Woman's Auxiliary will be honored Friday evening, September 11, 1936, when John H. J. Upham, President-elect of the American Medical Association, addresses their joint meeting at the Glenwood Springs Annual Session.



JOHN H. J. UPHAM
President-elect, the American Medical Association

Dr. Upham, as the guest of the Society and its Auxiliary, will address the joint session on "These Changing Times in Medicine." A brief musical entertainment presented by the Auxiliary will precede the address.

The Committee on Scientific Work is deeply grateful that Dr. Upham was able to fit the dates of our Annual Session into the strenuous schedule required of the high office he holds in American Medicine. The Committee regrets only that Dr. Upham was unable to announce his acceptance of the invitation until after the August issue of Colorado Medicine had gone to press, thus allowing a rather brief period in which to publicize his appearance to the profession of Colorado and neighboring states.

Dr. Upham was born at Trenton, N. J., August 12, 1871, and was graduated as a Doctor of Medicine from the University of Pennsylvania School of Medicine in 1894. He spent his interneship at Johns Hopkins Hospital in Baltimore, and later did postgraduate work at Prague, Leipzig, and Berlin. He took up private practice in Columbus, Ohio, in 1896. He served as instructor in medicine at Starling Medical College from 1897 to 1902, and as associate professor of medicine from 1902 to 1908. He was professor of medicine and clinical medicine at Starling-Ohio Medical College from then until 1914, when he was appointed professor of medicine at Ohio State University College of Medicine, where he became dean in 1927. Dr. Upham has been a member of the Ohio State Board of Medical Examiners since 1913. In 1922 he was a member of the advisory board of the American Red Cross. He has served at different times as secretary, state journal editor, legislative chairman, and President of the Ohio State Medical Association. In 1922 he served on the Judicial Council of the American Medical Association, and then for twelve years was a member of the Association's Board of Trustees, serving as its chairman the last two years of his term. He was chosen President-elect of the American Medical Association at the Kansas City session last May, which was attended by more than two hundred Colorado physicians. He will be installed as President of the national body at the Atlantic City Session next June.

We are pleased to learn that Dr. Upham will be accompanied to our Glenwood Springs session by his wife, and that, barring unforeseen circumstances, Dr. and Mrs. Upham will spend the full three and one-half days of our session with us.

Program Change at Glenwood Springs

WE REGRET to announce that Dr. M. F. Haralson of the United States Public Health Service will be unable to present his paper which is scheduled in the printed program for 11:00 a.m. Friday, September 11, as part of the Annual Session proceedings at Glenwood Springs. Exigencies of the Public Health Service have made it impossible for him to attend.

The thirty minutes from 11:00 to 11:30 a.m. on that day will be devoted to a special presentation of a number of the Society's senior Past Presidents, who have arranged to be in attendance for this occasion.

The Committee regrets that this change in the schedule of the Annual Session developed after the printed programs had been prepared for mailing to all members of the Society, making it impossible to give an earlier announcement.

COMMITTEE ON SCIENTIFIC WORK,
By PHILIP HILLKOWITZ, M.D., Chairman.



THE COLORADO MEDICAL FOUNDATION IS NOW A FACT

IN THE AUGUST ISSUE of Colorado Medicine an article under this same title (Page 534) announced completion of the documents representing a year's work in planning, organizing, and creating The Colorado Medical Foundation. August 3, 1936, may well become a historic date of great importance to the medical profession and to the people of Colorado, for on that date the formal documents were signed and the Foundation actually began to function. The above picture was made as an additional record of the signing, which took place in the Trust Department offices of the International Trust Company, Denver. Seated, left to right, are Walter W. King, M.D., President of The Colorado State Medical Society; E. C. King, Trust Officer of the International Trust Company, and John B. Hartwell, M.D., Treasurer of The Colorado State Medical Society. Standing are Paul M. Clark, chief counsel for the Medical Society; Harvey T. Sethman, Executive Secretary of the Society, and John M. Eckley, associate counsel for the Society.

THE AMERICAN BOARD OF INTERNAL MEDICINE (INC.)

The American Board of Internal Medicine, incorporated February 28, 1936, completed its organization on June 15, 1936. The officers chosen were Walter L. Bierring, M.D., Des Moines, Chairman; Jonathan C. Meakins, M.D., Montreal, Vice Chairman; and O. H. Perry Pepper, M.D., Philadelphia, Secretary-Treasurer. These officers with the following six members constitute the present membership of the board: David P. Barr, M.D., St. Louis; Reginald Fitz, M.D., Boston; Ernest E. Irons, M.D., Chicago; William S. Middleton, M.D., Madison; John H. Musser, M.D., New Orleans, and G. Gill Richards, M.D., Salt Lake City.

The term of office of each member will be three years, and no member can serve more than two consecutive three-year terms.

The organization of the Board is the result of effective effort on the part of the American College of Physicians in conjunction with the Section on Practice of Medicine of the American Medical Association, and these two organizations are represented in the membership of the Board on a five-to-four ratio, respectively.

The American Board of Internal Medicine had previously received the official approval of the two bodies fostering its organization, as well as that of the Advisory Board for Medical Specialties and the Council on Medical Education and Hospitals of the American Medical Association.

The purpose of the Board will be the certification of specialists in the field of internal medi-

cine, and the establishment of qualifications with the required examination procedure for such certification.

While the Board is at present chiefly concerned with the qualification and procedure for certification in the general field of internal medicine, it is intended to inaugurate immediately after July 1, 1937, similar qualification and procedure for additional certification in certain of the more restricted and specialized branches of internal medicine, as gastroenterology, cardiology, metabolic diseases, tuberculosis, allergic diseases, et cetera. Such special certification will be considered only for candidates who have passed at least the written examination required for certification in general internal medicine. The operation of such a plan will require the active participation and cooperation of recognized representatives from each of such special fields of medicine.

Each applicant for admission to the examination in internal medicine will be required to meet the following standards:

General Qualifications

1. Satisfactory moral and ethical standing in the profession.

2. Membership in the American Medical Association or, by courtesy, membership in such Canadian or other medical societies as are recognized for this purpose by the Council on Medical Education and Hospitals of the American Medical Association. Except as here provided, membership in other societies will not be required.

Professional Standing

1. Graduation from a medical school of the United States or Canada recognized by the Council on Medical Education and Hospitals of the American Medical Association.

2. Completion of an internship of not less than one year in a hospital approved by the same council.

3. In the case of an applicant whose training has been received outside of the United States and Canada, his credentials must be satisfactory to the Advisory Board for Medical Specialties and the Council on Medical Education and Hospitals of the American Medical Association.

Special Training

1. Five years must elapse after completion of a year's internship in a hospital approved for interne training before the candidate is eligible for examination.

2. Three years of this period must be devoted to special training in internal medicine. This requirement should include a period of at least several months of graduate work under proper supervision in anatomy, physiology, biochemistry, pathology, bacteriology, or pharmacology, particularly as related to the practice of internal medicine.

This work may be carried on in any domestic or foreign medical school or laboratory recognized by the Council on Medical Education and Hospitals of the American Medical Association as offering appropriate facilities for this type of postgraduate experience; or it may include a period of at least several months of graduate work under proper supervision in internal medicine or in its restricted and specialized branches in any domestic or foreign hospital, clinic, or dispensary, recognized by the above Council as offering appropriate facilities for this type of postgraduate experience.

3. A period of not less than two years of special practice in the field of internal medicine or in its more restricted and specialized branches.

The American Board of Internal Medicine does not propose to establish fixed rules for the preliminary training of candidates for certification in this field. Broad general principles for training, however, may be outlined, although such suggestions as are made must, of necessity, be subject to constant changes reflecting the dynamic nature of the specialty.

A sound knowledge of physiology, biochemistry, pharmacology, anatomy, bacteriology, and pathology, in so far as they apply to disease is regarded as essential for continued progress of the individual who practices internal medicine. The mere factual knowledge of medicine and its basic sciences is not sufficient. The candidate must have had training in their use in furthering his understanding of clinical medicine. This implies practical experience under the guidance of older men who bring to their clinical problems ripe knowledge and critical judgment. Preparation to meet this requirement adequately may be even more difficult to obtain than the so-called scientific training. It may, however, be acquired in the following ways:

(a) By work in a well-organized hospital outdoor clinic conducted by competent physicians.

(b) By a prolonged period of resident hospital appointments likewise directed by skilled physicians.

(c) By a period of training in intimate association with a well-trained and critical physician who has taken the trouble to teach and guide his assistant rather than to require him only to carry out the minor drudgery of a busy practice.

4. The Board does not consider it to the best interests of internal medicine in this country that rigid rules as to where or how the training outlined above is to be obtained. Medical teaching and knowledge are international. The opportunities of all prospective candidates are not the same. Some may have the opportunity of widening their knowledge by a period of study abroad. Others, at the other extreme, may be restricted to a comparatively narrow geographic area and their detailed training must be obtained in short periods scattered over a long time. Although it is laid down that at least five years must elapse between the termination of the first interne year and the time when the candidate is eligible to take the examination, a longer period is advisable. The Board wishes to emphasize that the time and training are but means to the end of acquiring a broadness and depth of knowledge of internal medicine which the candidate must demonstrate to the Board in order to justify it in certifying that he is competent to practice internal medicine as a specialty. The responsibility of acquiring the knowledge as best he may rests with the candidate, while the responsibility of maintaining the standard of knowledge required for certification devolves on the Board.

Method of Examination

The examination required of candidates for certification as specialists in Internal Medicine will comprise, Part I (written) and Part II (practical or clinical).

Part I.—The written examination is to be held simultaneously in different sections of the United States and Canada and will include:

(a) Questions in applied physiology, physiological chemistry, pathology, pharmacology, and the cultural aspects of medicine.

(b) Questions in general internal medicine.

The first written examination will be held in

December, 1936, and candidates successful in this written test will be eligible for the first practical or clinical examination which will be conducted by members of the Board near the time for the annual session of the American College of Physicians at St. Louis in April, 1937. The second practical examination will be held at Philadelphia near the time of the annual session of the American Medical Association in Atlantic City in June, 1937.

The fee for examination is forty dollars, which must accompany the application and an additional fee of ten dollars is required when the certificate is issued.

Application blanks and further information can be obtained by addressing the office of the chairman, Walter L. Bierring, M.D., 406 Sixth Avenue, Des Moines, Iowa, U. S. A.

THE INTERSTATE POSTGRADUATE MEETING

The International Assembly of the Interstate Postgraduate Medical Association of North America, under the presidency of Dr. David Riesman of Philadelphia, Pennsylvania, will be held in the public auditorium of St. Paul, Minnesota, October 12, 13, 14, 15 and 16 with pre-assembly clinics on Saturday, October 10, and postassembly clinics Saturday, October 17, in the hospitals of St. Paul.

The aim of the program committee with Dr. George Crile as chairman is to provide for the medical profession of North America an intensive postgraduate course covering the various branches of medical science. The program has been carefully arranged to meet the demands of the general practitioner, as well as the specialist. Extreme care has been given in the selection of the contributors and the subjects of their contributions.

In cooperation with the Minnesota State Medical Association, the Ramsey County Medical Society will be host to the Assembly and has arranged an excellent list of committees who will function throughout the Assembly.

A most hearty invitation is extended to all members of the profession who are in good standing in their State or Provincial Societies to be present and enjoy the hospitality of the medical profession of St. Paul. A registration fee of $5.00 will admit each member of the medical profession in good standing to all the scientific and clinical sessions.

Special railroad rates will be in effect.

Further information can be obtained from Dr. W. B. Peck, Managing Director, Freeport, Illinois.

ROCKY MOUNTAIN TUBERCULOSIS CONFERENCE

Next Meeting—Albuquerque, New Mexico—September 28, 29, 1936

A splendid program is arranged for this meeting. Exceptionally well-qualified speakers from many parts of the United States will contribute to a thorough discussion of tuberculosis and its related problems.

ARNOLD MINNIG, M.D.,
Secretary-Treasurer.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

The next written examination and review of case histories of Group B applicants by the American Board of Obstetrics and Gynecology will be held in various cities in the United States and Canada on Saturday, November 7, 1936.

Application blanks and booklets of information may be obtained from Dr. Paul Titus, Secretary, 1015 Highland Bldg., Pittsburgh, Pennsylvania. for this examination must be filed in the Secretary's office sixty days prior to the scheduled date of examination.

PAUL TITUS, M.D.

SALESMEN WANTED

Organized Medicine lives in a fog of medieval obscurity. This is particularly true when considering our methods of presenting or, more properly, "selling" a "superior article" in the face of competition offered by "un-marked" or "unbranded" goods.

Every manufacturer, each merchant, and all crafts explain to their intended customers that the commodity or service is NOT one offered in lieu of the best but, IS THE BEST. True, the charges may be higher, but the purchaser gets value received.

Do you want an off brand shirt or suit or hat? If so, you buy the same because the article is cheap. Remember, a cheapened price means but one thing, namely, "that there has been a stinting in service or quality, or both."

Why not explain to our patients just "why" they cannot be treated as a machine; just "why" good or superior service demands a better fee? Let's EDUCATE OUR public.

We worry too much about those who offer an inferior service for a cheapened fee! Let's not cheapen Organized Medicine by fighting the irregular!

We can afford to ignore him if we be more "regular" ourselves.

No one should be proud to have reached a "cut price" level.

There's a weed in every garden, for truly, a soil that grows a rose will sustain a thistle!

Recall the parable of the cockle amidst the wheat. Educate the public and "await ye the harvest."—San Diego Med. Bul.

TREASURY DEPARTMENT

Bureau of Narcotics
Denver, Colo.

August 7, 1936.

Editor of COLORADO MEDICINE,
Denver, Colorado.

Dear Sir:

In the City of Denver there are two narcotic-drug addicts who are constantly victimizing physicians and obtaining morphine to satisfy addiction by simulating various ailments. These men are described as follows:

James Anselmo, with aliases: Jimmie Nicolletti, Frank Nicolletti, James Mattie, J. Marchetta. Italian, 30 years of age, 5 feet 6¾ inches in height, weight 160 pounds, build good, complexion swarthy, eyes dark brown.

hair black. **Exhibits old burn scar on right leg** extending from groin to knee. Has victimized several physicians in the State of Colorado, particularly in Denver, his home, and obtained morphine, by representing that he is in intense pain. Sometimes simulates pain of kidney stones. Has served terms in Leavenworth Federal Penitentiary and Canon City State Penitentiary and in the Denver County Jail for violation of the narcotic laws. Is a drug addict with no pathological need for narcotic drugs. Has "worked" a large number of physicians in the Republic, Metropolitan and Majestic Buildings in Denver, Colorado.

Dominic Spring, with aliases: James DeBello, James Costello. Italian, 34 years of age, 5 feet 7 inches in height, weight 135 pounds, complexion dark sallow, hair dark brown, eyes dark brown, born in U. S. of Italian extraction. **Left eye is artificial.** Has a long criminal record; has served terms in Leavenworth Federal Penitentiary, in the Colorado State Industrial School, and in the Denver County Jail. Has victimized numerous physicians in Denver as well as throughout the State of Colorado, obtaining morphine for various simulated ailments. He is a narcotic-drug addict with no pathology requiring morphine. **Has tinea sycosis** (barber's itch).

On August 24, 1936, **James Anselmo,** one of the addicts described above, was prosecuted in Justice Court, Denver, Colorado, for violation of the Colorado Narcotic Law of 1935, i. e., "for obtaining narcotic drugs by fraud, decit, misrepresentation, and subterfuge, by the concealment of a material fact, and by the use of a false name and the giving of a false address." The said **James Anselmo** was sentenced to serve a term of six months in the Denver County Jail. The evidence in the case was presented to the court by Narcotic Agents working under the direction of Mr. Harry D. Smith, District Supervisor, Bureau of Narcotics, Denver, Colorado, in cooperation with the Denver Police Department. However, this six-months sentence will pass only too quickly, and Anselmo will again be frequenting doctors' offices.

The Bureau of Narcotics is at all times anxious to cooperate with practitioners and other registrants under the Harrison Narcotic Law, and would appreciate advice at any time regarding the two above-described persons, or other drug addicts, presenting themselves at doctors' offices attempting to procure narcotic drugs unlawfully.

It would be appreciated if you would place a notice in your next issue of COLORADO MEDICINE warning Colorado physicians against these two drug addicts. It is believed that practitioners in this State would appreciate having this information.

Very truly yours,

HARRY D. SMITH,
District Supervisor.

WOMAN'S AUXILIARY

DENVER COUNTY

The members of the board of the Denver Auxiliary were the guests of the President, Mrs. Claude B. Cooper, at lunch at Cherry Hills Country Club on Tuesday, August 4, 1936. At the meeting which followed it was decided to change the form of the annual benefit card party. Consequently a city-wide party was chosen. As this is a departure from previous practice, the matter was carefully outlined. During the week of November 16, each member of the auxiliary is requested to entertain a group of at least four persons. For each person, she will remit to the organization the sum of fifty cents, or a minimum of two dollars per member. Each hostess is personally responsible for any expenditure incurred and accordingly, the Auxiliary exerts no control of the scale or kind of entertainment. The hostess may exceed the number stated (four), but she is asked not to lessen it. She may entertain modestly or elaborately, a large or small number, but she must return to the Auxiliary Philanthropic Fund a sum equivalent to fifty cents per person for each guest she has had. She may assume this amount herself, or she may ask her guests to contribute individually. The only condition the organization makes is that each member is thus made responsible for an amount of at least two dollars to supply the funds for the annual philanthropic enterprises of the society.

The third and last of the series of benefit card parties was held at the home of Mrs. T. Mitchell Burns on Tuesday, August 25, 1936. The assisting hostesses were Mesdames Ward Burdick, C. Howard Darrow, Leo L. Davis, Franklin G. Ebaugh, C. F. Kemper, Cicero L. Lincoln, Douglas Macomber, John A. McCaw, George W. Miel, E. R. Mugrage, Hermann B. Stein, F. B. Stephenson, J. Leonard Swigert, and Philip Work.

CROWLEY COUNTY

The Crowley County Medical Society met August 15, at 7:30 p. m. at the office of Dr. J. A. Hipp, President, in Olney Springs. The principal speakers were Dr. R. B. Crozier of Pueblo, whose subject was "Trichomonas Vaginalis," and Dr. George B. Stanley of Ordway, who spoke on "Chorea and Its Treatment." A chicken dinner was served, and all had a good time.

WM. M. DESMOND,
Secretary.

"Although the entire mechanism of Wagner-Jauregg's malaria treatment is not yet known, observations are reported in this study which point to the fact that elevated temperature plays only a minor role among those factors which are responsible for the beneficient effect of malaria therapy.—Journal of Nervous and Mental Disease.

We have kept citrated blood in the icebox for as long as fourteen days and found that it could be administered satisfactorily and with the usual benefits to the patient. In this way we are able to draw from a donor the blood that we might wish to administer subsequently in divided doses and in small quantities.—Proceedings of the Staff Meetings of the Mayo Clinic.

(In cases of cerebral injury.) We do not feel that one or a combination of the following is a reliable index of what is happening to the patient: blood pressure, pulse, spinal fluid pressure, respirations, temperature, state of consciousness, papilledema and vomiting.—American Journal of Surgery.

COLORADO STATE MEDICAL SOCIETY

Officers, 1935-1936

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President-elect: A. J. Markley, Denver.

Vice Presidents: First, L. W. Bortree, Colorado Springs; Second, Herman C. Graves, Grand Junction; Third, A. C. Sudan, Kremmling; Fourth, C. W. Bixler, Erie.

Constitutional Sec'y.: J. S. Bouslog, Denver (1936).

Treasurer: J. B. Hartwell, Colorado Springs (1938). (The above officers constitute the Board of Trustees of the Society.)

Executive Secretary: Mr. Harvey T. Sethman, 537 Republic Bldg., Denver; telephone KEystone 0870.

Delegates to American Medical Association: John W. Amesse, Denver (1936); Alternate, John B. Crouch, Colorado Springs (1936); Haroid T. Low, Pueblo (1937); Aiternate, John Andrew, Longmont (1937).

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District No. 2	Ella A. Mead, Greeley	1936
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District No. 6	C. Rex Fuller, Salida	1938
District No. 7	A. L. Burnett, Durango	1937
District No. 8	Lee Bast, Delta	1937
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Publication: C. F. Kemper, Denver (1936), Chairman; C. S. Bluemel, Denver (1937; Osgoode S. Philpott, Denver (1938).

Medical Defense: Frank B. Stephenson, Denver (1936) Chairman; Edward Delehanty, Denver (1937); T. E. Beyer, Denver (1938).

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Rocky Mountain Joint Session, 1937: G. P. Lingenfelter, Denver, Chairman; Nolie Mumey, Denver; Claude Cooper, Denver; Harold T. Low, Pueblo; Lawrence L. Hick, Delta.

Delegates to Colorado Council of State-wide Health Agencies: W. H. Halley, Denver; Harry A. Alexander, Boulder.

Constituent Societies Meeting Dates; Secretaries

Adams County—Quarterly, date set by president and secretary; secretary, J. C. Stucki, Brighton.

Arapahoe County—Last Monday of each month· secretary, N. Paul Isbell, Englewood.

Boulder County—Second Thursday of each month; secretary, Warren M. Gilbert, Boulder.

Chaffee County—First Tuesday of each month; secretary, L. E. Thompson, Salida.

Clear Creek Valley—Second Tuesday of each quarter; secretary, Edward P. Fee, Arvada.

Crowley County—Second Wednesday of each month; secretary, W. M. Desmond, Ordway.

Delta County—Last Friday of each month; secretary, E. R. Phillips, Delta.

Denver County—First and third Tuesday of each month; secretary, F. Julian Maier, Denver.

Eastern Colorado—Quarterly, first Monday in December, March, June and September; secretary, W. L. McBride, Seibert.

El Paso County—Second Wednesday of each month, secretary, Harry C. Bryan, Colorado Springs.

Fremont County—Fourth Monday of each month; secretary, Archie Bee, Canon City.

Garfield County—Last Thursday of each month; secretary. R. B. Porter, Glenwood Springs.

Huerfano County—Third Thursday of each month; secretary, James M. Lamme, Walsenburg.

Lake County—First Thursday of each month; secretary, J. C. Strong, Leadville.

Larimer County—First Wednesday of each month; secretary, Thad C. Brown, Fort Collins.

Las Animas County—First Friday of each month; secretary, P. W. Carmichael, Trinidad.

Mesa County—Third Tuesday of each month; secretary, F. J. McDonough, Grand Junction.

Montrose County—First Thursday of each month; secretary, C. E. Lockwood, Montrose.

Morgan County—Last Monday of each quarter; secretary, Paul E. Woodward, Fort Morgan.

Northeast Colorado—Second Thursday in each month; secretary, E. P. Hummel, Sterling.

Northwestern Colorado—Second Thursday of each month; secretary, Duane Turner, Steamboat Springs.

Otero County—Second Friday of each month; secretary, C. E. Morse, La Junta.

Prowers County—First Tuesday of each quarter, secretary, C. T. Knuckey, Lamar.

Pueblo County—First and Third Tuesday of each month; secretary, Jesse W. White, Pueblo.

San Juan—Second Saturday, January, April, July and October; secretary, Charles L. Mason, Durango.

San Luis Valley—Fifteenth of each month; secretary, James R. Hurley, Alamosa.

Washington and Yuma Counties—First Tuesday of each quarter; secretary, M. L. Crawford, Akron.

Weld County—First Monday of each month; secretary, T. C. Wilmoth, Greeley.

Wyoming Section

SEPTEMBER
1936

Editorial

Wyoming and Colorado Come Closer Together

The traditional fraternalism between the Wyoming and Colorado medical societies is well known. It has been exemplified at their respective annual meetings every summer and fall, for years. Memory fails to recall a year without an exchange of fraternal delegations. But not for many years has there been any session in the nature of a real joint meeting.

It is particularly pleasant therefore to contemplate the enthusiastic acceptance which Colorado's suggestion of a joint Rocky Mountain Medical Conference for the summer of 1937 was accorded at Wyoming's Cody meeting August 24 and 25. It was equally pleasant to note the cordiality with which the Wyoming officers and members already are looking forward to acting as hosts for another such meeting some time in the near future, with Yellowstone Park as the locale.

Thus the Wyoming State Medical Society became the second Rocky Mountain State to accept the invitation announced last autumn by the Colorado Society's House of Delegates. New Mexico accepted at her meeting last May. Utah will act upon the invitation early this month at Salt Lake City. All indications point toward Utah's acceptance, but even should Utah decline, the 1937 meeting, to be held at a mutually agreeable date in midsummer in Denver, is assured.

Those who traveled from Colorado to Wyoming's Cody meeting to extend the formal invitation were accorded the usual Wyoming hospitality; they were made to feel that they were more than welcome, that they were practically ex-officio members of the Wyoming Society! Wyoming produced a notable program. The majority of the papers presented there will be published throughout the year in these columns. The entertainment was all that one could wish, climaxed as it was with a stirring address at the annual banquet by Dr. John H. J. Upham of Columbus, Ohio, President-elect of the American Medical Association.

Since the meeting was held at the very door of Yellowstone National Park, many Wyoming members as well as guests and visitors took occasion to extend their vacation trip after the meeting with a tour of Yellowstone's wonders. Regretful were the official representatives of the Colorado Society, who had to hurry home without making that trip, even leaving Cody before the program was completed, because attention was needed to preparations for Colorado's Glenwood Springs meeting which opens September 9.

The dates of this year's Wyoming meeting fell just at Colorado Medicine's press time; hence officers of the Wyoming Society could not prepare editorials or detailed reports of that meeting for this issue, and they must appear in October. The Colorado representatives therefore take the liberty of expressing in Wyoming's section of the journal, all too briefly, their appreciation of the Cody meeting, their appreciation of the cordial reception accorded them and their proposal for 1937. Colorado, and Denver as the host city, will endeavor to reciprocate next summer.

H. T. S.

Our Hosts

THE Big Horn Basin was a great lake in the glacial period. It is surrounded by the Rocky Mountains including the Yellowstone Park, the great playground of America, on the west, the Pryor Mountains on the north, the Big Horns on the east and the

Wind River Mountains on the south. This fertile valley is larger than the New England states. It is watered by the Shoshoni, Greybull, Big Horn and other streams.

The early settlers were cattle men and soon built extensive irrigation systems which later were augmented by the large irrigation companies and then the United States Government created great dams and irrigation and drainage projects. Settlers followed and today some of the finest irrigated ranches and farms of Wyoming are found in the Big Horn Basin.

The Northwestern Wyoming Medical Society is the organization of the doctors of this empire composing the counties of Park, Big Horn and Washakie. This society consists of about twenty-five members scattered in little towns and cities separated by many miles with only a few doctors in each town to maintain an active membership. They meet every two months and have most interesting meetings. Often they have to drive from fifty to seventy-five miles to attend these gatherings, but they do it.

These are the men who entertained and managed our State Meeting at Cody August 24 and 25. No registtration or banquet fees were charged and all the entertainment for the members of the State Society, their wives and guests, was provided by the members of the Northwestern Wyoming Medical Society. We take off our hats to these men, many of them pioneers in this great region. They provided real western welcome. E. W.

An Unambiguous Stand

Resolutions adopted at the Annual Meeting of the American Medical Association leave no doubt as to the stand of the organized physicians of the country toward compulsory health insurance or any extension of the government's activities in the realm of individual health. Although entirely sympathetic to the aims of the Administration's social security program, the profession does not believe they will be achieved, in so far as healing is concerned, by political regimentation of the nation's doctors.

It is useless for Mr. Kingsbury and others to affirm that obligatory prepayment for sickness is not state medicine. Under their plan the state would pay part of the premium and no one can for a minute believe it would assume this financial burden without claiming the right to dictate terms. There is nothing in the experience of other nations with compulsory health insurance, or in our own adventures in bureaucracy, to warrant the supposition that political control of medical practice would elevate the standards of medical care.

The field of public health is amply wide for governmental agencies, social service workers and physicians to work side by side without friction. It should be understood at the outset, however, that no lay individual or group is competent to pass judgment on, or dictate the conditions of, medical practice. Conversely, there are important economic and social factors in the maintenance of mass health that are not in the domain of medicine.

Dr. James S. McLester, the new President of the A. M. A., drew this distinction clearly in his Inaugural Address. Speaking of the role of diet in improving the race, he stated it is the function of physicians to determine and prescribe the best dietary regimen for man, of the government and social agencies to see that all people have sufficient incomes to purchase necessary foods. So with healing in general. No one is as well fitted as the profession to evaluate systems of medical care. It is up to the state and social welfare agencies to see that all are provided with the means of securing service under a system which experience and the best judgment of the medical profession endorse.—The New York Medical Week.

Chiropractic is doomed. You have drifted so far from the basic principle of chiropractic that you have lost your identity and brought the basic science bill on your heads. Twenty-eight chiropractic schools have been closed . . . you cannot defeat the ends of science. The basic science bills are the buckshot which we deserve for trespassing. When chiropractors preach and practice and try to become physicians, then it is justifiable for the medical men to educate the chiropractor.—Palmer.

Colorado Hospital Association

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THE HOSPITAL AND THE COMMUNITY*

ARTHUR C. BACHMEYER
Director of University Clinics, Associate Dean, Biological Division, University of Chicago
CHICAGO

One of the most interesting chapters of history is that one which deals with the development of the "Healing Art" and its ancillary agencies, chief among which is the hospital. For those of us who are members of the medical profession, or who are closely allied to it through the field in which we labor, it contains many incidents and narratives that are enlightening, amusing and of absorbing interest. As the emergence of medicine is ttraced from the haze of magic, mysticism, and superstition through the age of empiricism to the dawn of modern science, the story unfolds with increasing fascination. During the last century the pace of developments accelerates at an astounding rate as the curtain of the vast unknown is penetrated by one advance or discovery after another.

The historical development of hospitals closely parallels that of medicine. The progress, though comparatively slow, was continuous until the great Pasteur and his successors gave us definite knowledge of the cause, of the methods of transmission, and of the means of preventing disease. With that knowledge and the new interpretation of "cleanliness," through the practice of antiseptic and aseptic technic, the hazards incident to the assembling of the sick in institutions were removed and the fear of the hospital was gradually banished from the public mind. The hospital became an indispensable health agency and now occupies a position of prominence in modern society.

If proof be needed to sustain this statement we need only refer to the great expansion in the number of hospitals, the increase in hospital facilities, and of the use made of them by the public in the last sixty years. In 1875, there were less than 600 hospitals in all of the United States. In 1935, the report of the Council on Medical Education and Hospitals of the American Medical Association reveals that there were 6,246. This is almost 100 less than were reported in the previous year. But, though the years of economic stress have taken their toll of hospitals, the number of hospital beds has continued to increase, largely because of the extension of governmental facilities. In the last quarter century, a period which our memories can clearly visualize, the number of hospital beds has more than doubled. The increase, though less rapid in recent years, has been at the rate of over 25,000 beds each year. More than seven and one-half million patients were admitted to hospitals in 1935 (an increase of over one-half million over the previous year), and there were more than 875,000 patients in the hospitals each day in the year.

Further evidence that the hospital occupies an important position in the social structure of our era can be cited by reference to the growth of dispensary service. The first dispensary in the United States was established in Philadelphia in April, 1786—one hundred and fifty years ago. A few others were begun shortly thereafter, but since 1900 the expansion in number and scope has been most rapid. Much of this increase must be credited to the workers in the great

*Delivered before the Colo. Hosp. Ass'n. meeting, Apr. 26, 1936.

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campaign against tuberculosis. The term "dispensary" originally was used to designate an organized medical service to ambulatory patients rendered through an agency that was not associated with hospitals. However, as the advantages of hospital affiliation became apparent, the service was incorporated with that of the hospital. At the present time more than one-third of all registered hospitals operate dispensaries or as they are now designated "out-patient departments." Almost ten million individuals made more than thirty-five million visits to these dispensaries and received medical attention last year. Serving so large a number of ambulatory patients who constantly mingle with the public, this service tends to bring the hospital into close relationship with many other phases of the life of the community. These references to the growth of hospital facilities and to the extent to which they are used by the public are indicative of the attitude of society toward the hospital. Many other evidences of the public interest could be cited, but time will permit but one more.

The capital funds invested in American hospitals exceed three billion dollars, of which approximately one-half has come from government funds and one-half from private sources. Less than 10 per cent of the total investment has been made with any hope of return to the investor, or in other words "on a business basis." This huge sum has come primarily from generous citizens or from tax funds authorized, for the most part, by the voters at elections in which the issue carried by large majorities. Seldom has the taxpayer refused to approve proposals for the expenditure of tax funds for hospital projects when the need was clearly established. Seldom have campaigns to raise funds through voluntary subscriptions failed of their goal.

Similarly, in the case of operating expenses, large amount are subscribed annually for the support of voluntary institutions and enormous sums of tax money are expend for the operation of governmental hospitals. Few of the voluntary hospitals have sufficient endowment to cover operating deficits resulting from the service provided for patients who cannot pay the cost of their care. Few hospitals that render a comprehensive service to the community earn sufficient revenue to cover their operating expenses. Practically none of them include the cost of depreciation of buildings or permanent improvements in their operating expenditures.

The very large sums annually contributed by individual donors, through community funds, and through gifts and bequests reflect in no uncertain terms the attitude of the public toward hospitals and the regard in which they are held.

The advances made in the science of medicine have been responsible in largest measure for the change in the attitude of the public toward our institutions. These same advances have added to the complexities of hospital organization. They have made necessary the use of elaborate and expensive equipment and apparatus, have produced a demand for many auxiliary services and have created the need for the employment of numerous highly skilled technicians and assistants in order that the physician might record his observations with greater precision, better analyze the body's metabolic and physiological processes, more definitely arrive at a diagnosis and prescribe a proper therapy. These scientific advances have also produced the great specialization in medicine of which we occasionally hear complaints. They have operated to make the hospital an essential factor in the organization of the community.

Concomitant with this development in medicine there have come other changes incident to the machine age and the growth of industry. Numerous inventions and developments in every field of human endeavor, during the past half century, have materially added to the complexities of the life of the individual. Services and appurtenances formerly entirely lacking or regarded as luxuries are today considered to be necessities. The fact that these facilities, many of which have added to the convenience, comfort and fullness of life, and the opportunities for earning a livelihood, af-

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Arch. Otolaryngology, Mar. 1936, Vol. 23, No. 3, 306-309

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forded by the expansion of industry, were more readily available in the cities, led to their rapid growth at the expense of rural areas. The individual dwelling, with its many rooms gave way, in the cities, to the apartment building, the residential hotel and the tenement. Apart from the fact that competent medical care can no longer be given to the seriously sick patient in the home, it is impossible for the family in a small apartment to keep a sick member who is in need of bed care at home without entirely disrupting the life of the entire group.

All of these factors and numerous others are responsible for the development of the modern hospital.

The extensive developments in the fundamental medical sciences, the new knowledge gained and the rapid introduction of laboratory tests, of instruments of precision and new methods of therapy produced many changes in the practice of medicine. The physician was engrossed with the interpretation and application of these new modes which offered so much assistance in his campaign against disease and injury. His attention was centered upon the organic pathology present and the scientific means of correcting it, of re-establishing normal function. Time formerly spent at the bedside or with other members of the family was devoted to studies and consultations in the laboratories and x-ray departments of hospitals. With his time so fully occupied by roentgenological, bacteriological, chemical and pathological studies, it is not strange that he often lost sight of the fact that every illness had its psychic aspects and its social implications—that it is as important to know what kind of patient is afflicted as it is to know what kind of disease afflicts the patient.

Long before the advent of the twentieth century the interrelationships between illness and injury and poverty had engaged the attention of those charged with giving aid to the poor and needy. With the turn of the century, however, in the light of new knowledge this factor was given greater emphasis. There was recognition of the need for workers in relief agencies who had had instruction and training concerning the

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implications of medical conditions and who could interpret the effect of these influences upon the life of the individual and of the family. There was also recognition of the necessity of supplementing the ministrations of the physician and nurse in the hospital dispensary. Medical social service, as we know it today then came into being as an organized activity. Another vital factor linking the service of the hospital with the life of the community was thus established as hospitals added social service departments to their organization.

As the need developed additional services and facilities have been added to the hospital organization until it has become a rather complicated institution radically different from that of the simple hospital of a half century ago. It now provides every appliance and means, every type of trained personnel which knowledge and experience indicate to be necessary for the proper diagnosis and treatment of disease, for the prevention of illness and the preservation of health. It furnishes these facilities to the medical profession, while affording accommodations of several kinds for the sick in order that they may benefit from the ministrations of physician and nurse.

In addition, hospitals serve as educational centers, offering opportunities for training and experience to those who are qualified and who desire to fit themselves for service in any of the fields closely related to medicine and many of them support laboratories in which investigative studies are undertaken in an endeavor to solve some of the many problems which confront the medical profession.

Hospitals for the most part have been founded as independent entities, frequently without sufficient consideration of all existing conditions and circumstances. While it is no doubt true that the primary influence which motivated its founders and led to the establishment of a hospital was the presence of a real need for services which are only obtainable through such an institution, this has not always been the case. In many instances there have been conflicts between



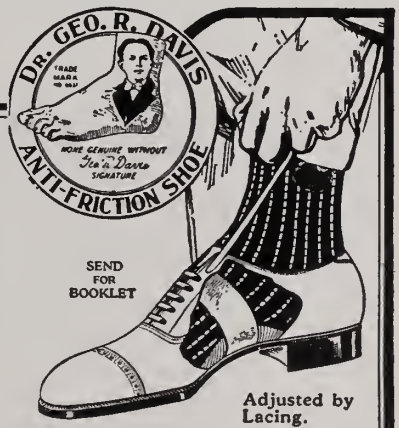
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groups or opposing factions in the medical profession and sometimes between religious organizations. There have been occasions when hospitals have been established in order to appease the ambitions of some individual or to demoralize some person or family. Not infrequently new hospitals have been located in close proximity to existing institutions without due regard to the community need, or to the type, quantity, variety or extent of service which each offered.

Even though founded and operated by philanthropic, religious or other supposedly altruistic organizations and dedicated to the service of humanity, hospitals have frequently been conducted in a spirit of competition and aggression. They have been quick to take advantage of defects or deficiencies in near-by institutions, in order to promote their own interests. Hospitals have developed services, purchased equipment, installed new apparatus the value of which was not thoroughly established, undertaken new construction, made renovations, offered advance in rank or other recognition to well-known members of the staff of another hospital, and devised publicity in order to promote their own interests and without regard to the need or the general welfare of the community. Needless expansion of hospital facilities, unbalanced service, unnecessary duplication of special equipment have often resulted at great and unessential cost. During the prosperous twenties when funds were so readily obtained much of this unreasonable and ill-considered competition and aggressiveness was in evidence.

Recent years have, however, brought a realization of the fallaciousness of such procedure. The need for carefully scrutinizing every request for financial support has become apparent. Programs for the institutional care of the sick should be restudied and new plans formulated that will provide for such services in accordance with the need of the district served by the institutions of a community. Planning should be done on a broad and comprehensive basis, avoiding an over-supply of hospital facil-

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ities. Duplication of special and unusual equipment and services should be eliminated. Careful study and coordination of effort with the pooling of interests by all hospitals and organizations involved is necessary if a well-balanced program of service for the community is to be obtained.

No hospital should be permitted to "go its own way," to expand its facilities or develop its services without regard for kindred institutions and agencies already existing or without due consideration of the community's need for the proposed development.

The modern hospital stands today as a great and indispensable health and social agency, but it does not, nor can it stand alone. The type and variety of its services bring it into close relations with all other agencies that serve the welfare of humanity. Charitable, social and health organizations, both public and private, lay and professional, educational institutions, the courts, all of these and many more come into daily contact in one way or another with its work. Every hospital should integrate its activities with that of every other and with these various agencies that serve the community.

As each institution should perform its proper function in the medical, social and economic life of the city, it is essential that hospital authorities should participate in the making of social, health and welfare plans. This can be done only if there is a coordinating and planning body with fact-finding facilities which will direct the combined efforts of all these organizations in the proper manner, and which through continual studies will be able to indicate the type and extent of development needed so that the greatest good for all can be achieved.

Hospital councils have been organized and are successfully functioning now in many cities. Through them hospital service has been better coordinated than ever before. Some councils have proved their value from a purely economic viewpoint through the operation of central purchasing and collection services. Others present interresting and helpful programs of activities

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in other directions. Hospitals have special interests and peculiar problems that may best be considered by a separate coordinating agency. They have, however, as has been indicated, interests that bring them into intimate relationship with other welfare and social agencies and should have a part in all community planning. The modern hospital is no longer merely a boarding house for the sick, but has become an intricate and complex organization which provides service that touches all walks of life. It serves society in a varied and effective manner. It is essential to modern civilization. Its activities must be integrated and coordinated with that of kindred institutions and with the life of the community if it is to achieve a full measure of success and merit the respect and consideration of the public which it rightfully deserves.

LIBRARY NOTES

Books Purchased from the Colorado State Medical Society Fund, August 1, 1936

Kovacs, Richard. Electrotherapy and Light Therapy. Phil., Lea & Febiger, 1935.

Osler, Sir William. The Principles and Practice of Medicine. 12th ed.; revision by Thomas McCrae. N. Y., D. Appleton-Century, 1936.

*Denver City Directory, 1936.

THE NEW AMERICAN MEDICAL DIRECTORY‡

The Fourteenth Edition of the American Medical Directory has been completed and copies are now available for general distribution.

The directory, with nearly twenty-five hundred pages, is a vast storehouse of information. It contains not only the most complete list available of the physicians of the United States and its dependencies and of Canada, but much additional data which hospitals, libraries and various other institutions, as well as individuals, will find useful and readily available. The directory is the only nation-wide register of physicians in which the extensive data on medical education, licensure and society affiliations have been verified.

The 1936 edition contains 183,312 names, or 4,796 more than were in the previous edition issued in 1934. The names of 13,157 physicians have been added and 7,684 names have been removed because of death. More than 70,000 changes of address have been made, in addition to thousands of changes in society affiliations, teaching positions, specialties and office hours.

In this edition, thirty-two states show an increase in the number of physicians; New York

*To be published in October.

‡Reprinted from the Editorial department of The Journal of the American Medical Association July 18, 1936, Vol. 107, pp. 214 and 215.

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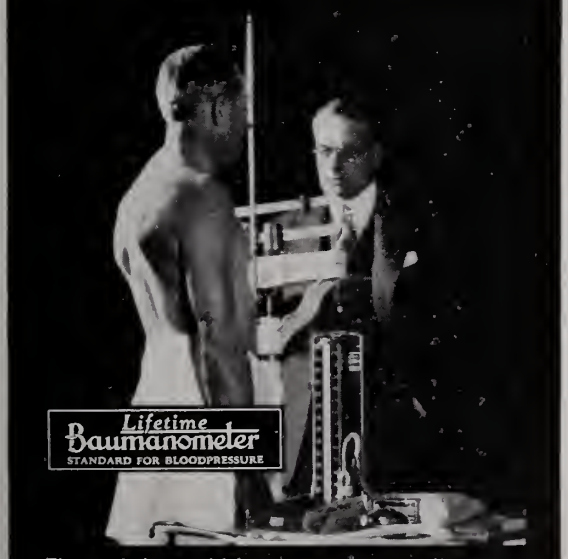
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leads the list with 1,201, followed by California (369), Pennsylvania (281), New Jersey (262) and Massachusetts (249). A slight decrease in the number of physicians is shown in Missouri, Georgia, Kentucky, Tennessee, Oklahoma, Alabama, Indiana, South Dakota, Maine, Vermont, Mississippi and New Hampshire. When the thousands of changes of location are analyzed they seem to show a noticeable migration of physicians to the larger towns in the South Central states, a trend that was previously present also in some other sections of the country.

The first section of 221 pages in the new directory includes the constitution and by-laws of the American Medical Association, the Principles of Medical Ethics, and a list of meeting places of the annual sessions of the Association since the first one in 1847, with the names of the President installed during each meeting. In this section also are lists of the hospitals that are approved for intern training, the medical libraries, the medical journals published in the United States, Canada, the Philippine Islands and Puerto Rico, the names of medical officers of the various government services, the national organizations for the various specialties with the names of their members, the membership of the new examining boards for the specialties, the medical schools in the United States and Canada with a brief history of each, and the members of the National Board of Medical Examiners.

The second section is arranged by states. There is published under each state the medical practice act, the members of the board of medical examiners, members of the state board of health, county and city health officers, and officers of the state, district and county medical societies. Following this is a list of 7,220 hospitals, sanatoriums and related institutions arranged by towns, with the name, location, bed capacity, superintendent, and type of patients treated in each institution. Then, arranged by towns, comes the great list of physicians, giving the year of birth, school, year of graduation and license to practice, membership in the state society and special societies, professorships, and Fellowship in the American Medical Association. The home and office addresses and office hours also are given for physicians in towns of more than 10,000 population.

A new feature in this edition is a key letter showing that a physician has been certified as a specialist by an approved examining board. Several of these boards have been approved by the Council on Medical Education and Hospitals since the directory went to press. The next edition therefore will contain a more complete list of certified specialists. An especially interesting feature of the 1936 edition is the list of American physicians temporarily located in foreign countries.

The third section, of 525 pages, is an alphabetical index of the names of 183,312 physicians; and practically every name is followed by the name of the city and state, thus indicating where in the directory detailed information about the individual physician may be found.

The bringing to completion of the Fourteenth Edition of the American Medical Directory has been a monumental task, in the pursuance of which thousands of individuals, societies, licensing boards, medical colleges and other organizations have cooperated. For their ready cooperation and assistance the American Medical Association is thankful and deeply appreciative.

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BOOK REVIEWS

The Balanced Diet. By Logan Clendening, M.D., Professor of Clinical Medicine, University of Kansas. Author of "The Human Body," etc. Illustrated. New York, London: D. Appleton-Century Company, Incorporated. 1936.

Doctor Clendening, already well known for his popular work on "The Human Body," has presented an excellent short discussion on the problem of the balanced diet.

In Part I, he discusses the principles of the balanced diet, elaborating on the essentials of the diet and their chemical and physiological significance. His summary is short and to the point.

Part II is concerned with the principles of special diets or diets in disease. He discusses infant feeding, the diet in nutritional, digestive, renal vascular and some other common diseases. In Chapter XII, he presents an excellent discussion of "Food Fads," an exposé of the fallacies underlying some widely exploited but highly unscientific diets. It can be read to advantage by layman and physician alike.

For a short discussion of the subject of diets, especially for the patient seeking a not-too-difficult approach to the problem of normal and special diets, this book is endorsed and highly recommended.

HARRY GAUSS.

Passive Vascular Exercises and the Conservative Management of Obliterative Arterial Diseases of the Extremities. By Louis G. Herrmann, A.B., M.D., Assistant Professor of Surgery, College of Medicine of the University of Cincinnati and the Cincinnati General Hospital; Director of the Vascular Disease Clinics of the Cincinnati General Hospital and the Christian R. Holmes Hospital of the University of Cincinnati with a Foreword by Mont R. Reid, M.D. Illustrated with 80 Engravings and 4 Colored Plates. Philadelphia and London: J. B. Lippincott Company.

Dr. Herrmann is especially well qualified to study this subject due to his association with Dr. Rene Leriche. His untiring energy with his mechanical ability makes him succeed where others have failed.

This is a book that relates in an interesting way the historical development of knowledge concerning the physiological effects of changes in environmental air pressure upon peripheral arterial circulation with a comprehensive expression of how, when, and where to use a Pavaex machine, with report of cases to verify the success of its use.

This book is of special interest to the general practitioner by making him alert in diagnosing obliterative arterial disease and also in not doing any minor surgery on these patients. To anyone especially interested in this type of work the references are of inestimable value.

A. W. METCALF.

Interpretation of Laboratory Findings. By Raymond H. Goodale, M.D. Pathologist, City Hospital, Worcester, Mass. Visiting Pathologist, Belmont and Fairlawn Hospitals, Worcester, Mass., Harrington Memorial Hospital, Southbridge, Mass., and Baldwinville Hospital Cottages, Baldwinville, Mass. Assistant Professor of Experimental Pathology, Boston University School of Medicine, Boston, Mass. Philadel-

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DR. WILLARD COOKE, Obs. & Gyn., Galveston, Prof. of Obs. & Gyn., Univ. of Texas; Fellow of Amer. Assoc. of Obs. & Gyn.; Fellow of Amer. Gyn. Society.

DR. WILBURT C. DAVIDSON, Pediatrics, Durham, N. C., Dean of Sch. of Med. & Prof. of Pediatrics, Duke University.

DR. SUMNER L. KOCH, Surgery, Chicago, Assoc. Prof. of Surg., Northwestern Univ. Med. Sch.; Attending Surg., Passavant Memorial & Cook County Hospitals.

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DR. A. C. FURSTENBERG, Otolaryngology, Ann Arbor Dean of Med. Sch. & Prof. of Otolaryngology, Univ. of Mich., Ann Arbor.

DR. T. B. MALLORY, Pathology, Boston Director of Laboratory of Pathology and Bacteriology, Mass. General Hosp.; Assoc. Prof. of Pathology, Harvard Med. Sch.

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phia: F. A. Davis Company, Publishers. 1936.

Many volumes have been written of late upon the interpretation of laboratory findings, but none so briefly and yet so completely. It states almost stenographically the normal and abnormal findings of hematology, serology, blood chemistry, urinalysis, etc., in the first part. The table on page 5 of hemoglobin values does not correspond however, with local findings. In the second part it treats alphabetically the laboratory findings in the commoner diseases. This should be of considerable value to the physician for quick reference. It is almost like a compend in its brevity and yet reads much more easily. The third part covers the physiologic pathology of the body fluids and excreta briefly stated. The fourth part of the book occupying only six pages gives instructions how to collect specimens for laboratory examination. Whereas large tomes often merely ornament our shelves a little handbook of this kind, which is complete, is more apt to be constantly used.

OTTO S. KRETSCHMER.

A Textbook of Surgery: By American Authors. Edited by Frederick Christopher, B.S., M.D., F.A.C.S., Associate Professor of Surgery at Northwestern University Medical School; Chief Surgeon, Evanston (Illinois) Hospital. 1608 pages with 1349 illustrations on 730 figures. Philadelphia and London: W. B. Saunders Company, 1936. Cloth, $10.00 net.

This book consisting of 1567 pages covering the field of surgery is well bound and very readable. It has been compiled through the cooperation of 184 contributors, many of which are outstanding authorities of the subjects which they present. Many years of teaching by the Editor and by many of the contributors have qualified them particularly well for the compilation of a book which will be read both by students and by practitioners. This well illustrated book attempts to cover the vast field of surgery in one volume in a manner heretofore seen in several volume sets. This has of course necessitated the reduction of each surgical condition described to a concise pointed form, without unnecessary discussions of debatable methods of treatment. It also necessitates the very brief list of references which follow the presentation of the subject matter. A few omissions of uncommon surgical conditions are noted, but the common surgical conditions are covered clearly and concisely.

Some who read this book will undoubtedly feel that the method of treatment in some instances is not the one which should have been selected as the most modern and effective form of treatment. For instance, many will feel that in the operation for undescended testicle that anchoring of the testicle and scrotum temporarily to the thigh gives a much better result and is more desirable than the Bevan operation described. Others will probably feel that the injection treatment for inguinal hernia has a very definite although limited use, and for this reason should have reasonable space given to it in discussing the surgical treatment of inguinal hernia. Similarly throughout this volume the choice of operation described will not meet the approval of all who read it.

Nevertheless, it must be said that this excellent one volume surgery gives on the whole the latest and most generally accepted methods of treatment and as such it should prove a very attractive reference book on surgery both for the student and for the practitioner.

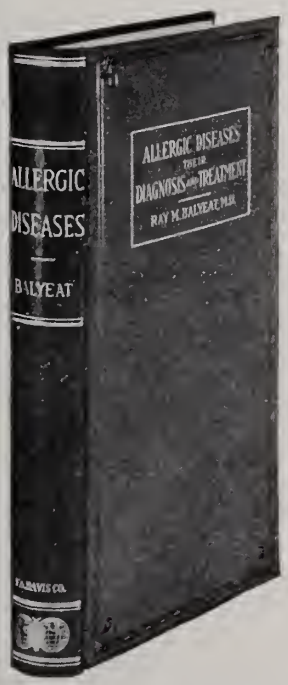
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Associate Professor of Medicine and Lecturer on Diseases Due to Allergy, University of Oklahoma Medical School; Chief of the Allergy Clinic, University Hospital; Consulting Physician to St. Anthony's Hospital and to the State University Hospital; President of the Association for the Study of Allergy 1930-1931; Director, Balyeat Hay Fever and Asthma Clinic

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Heart Disease and Tuberculosis. Efforts, Including Methods of Diaphragmatic and Costal Respiration, to Lessen Their Prevalence. S. Adolphus Knopf, M.D., New York University and Paris. This book issued by the patients at The Potts Memorial Hospital for the rehabilitation of the tuberculous. For sale through them by The Livingston Press, Livingston, Columbia County, New York. Price, $1.25. New York, N. Y. 1936.

In a report to the United States Government in 1932, the author presented a unique therapy for use in various types of tuberculous and non-tuberculous pulmonary diseases and in certain types of circulatory disturbance. This therapy he describes as "controlled diaphragmatic respiration."

In the new book of 105 pages, the subject of the present review, Dr. Knopf again elaborates upon this ingenious method. He presents two distinct "types of diaphragmatic respiration, the one indicated in tuberculosis and the other in heart disease." To the reviewer it seems that the chief value of "controlled diaphragmatic respiration" lies in a resultant complete relaxation—not a new idea in the treatment of either type of disease. To quote: "The patient must strive to relax in mind and body and is told to imagine that the respiratory movement begins in the toes of the right foot."

As one reads the more detailed description he is lost in a mass of physiological and psychological discussion which may lead to the conclusion that the results claimed for the method rest largely upon a psycho-therapeutic basis. To the reviewer's knowledge the method has not been adopted by other workers and has not been personally employed, hence recommendation or condemnation would be undesirable. The balance of this book presents nothing new in either field and is not especially well arranged.

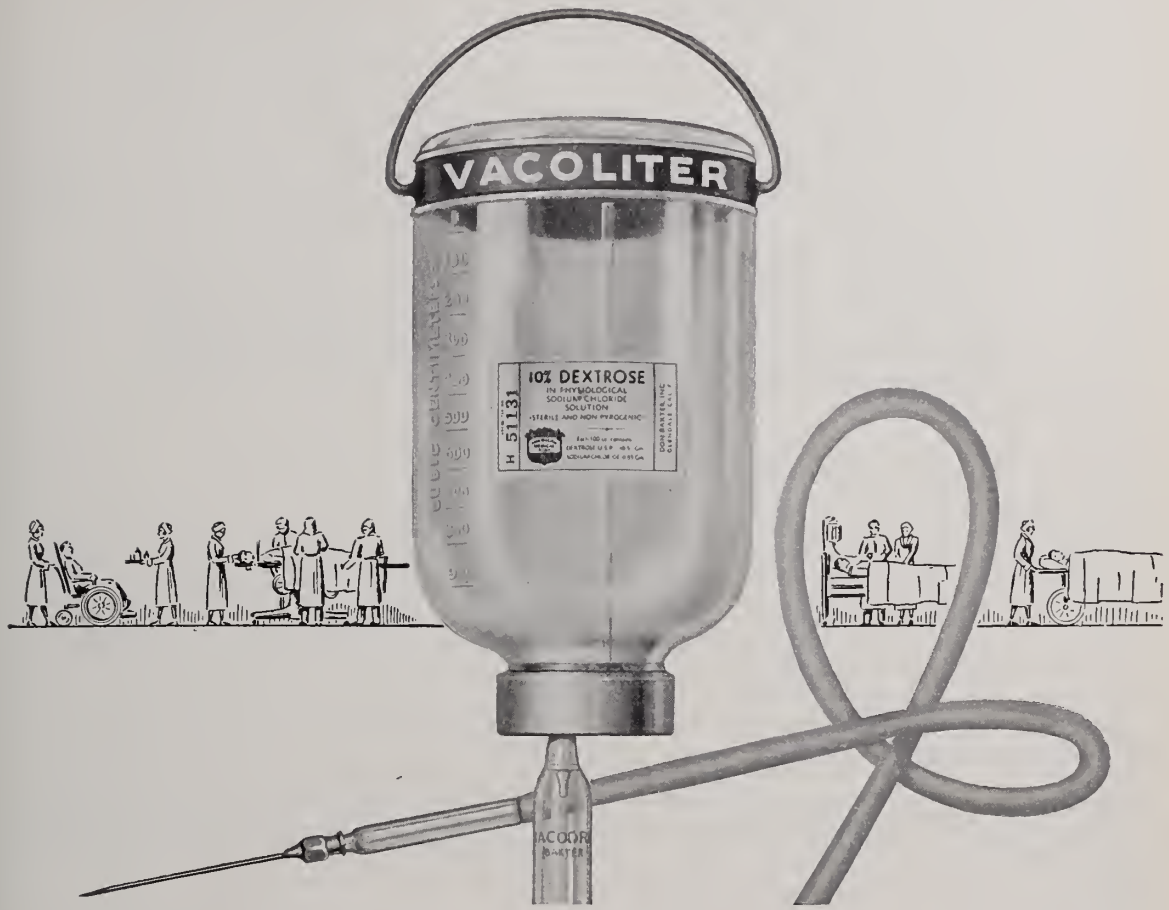
C. T. BURNETT.

Why Bring That Up? A Guide to and from Seasickness. By Dr. J. F. Montague, Medical Director, New York Intestinal Sanitarium; Late of University and Bellevue Hospital Medical College; Fellow American Medical Association; Fellow New York Academy of Science; Fellow New York Pathological Society; Sometime Fellow New York Academy of Medicine and American College of Surgeons. Editor of Health Digest. The Home Health Library, Inc. 516 Fifth Avenue, New York.

This attractive little book, tinged with a bit of humor, is a practical consideration of seasickness. Doctors who are called upon to give advice for the prevention and treatment of seasickness will find many helpful suggestions therein. Doctors, or anyone else, planning a sea voyage may thus possibly determine the difference between an enjoyable journey in good health and a miserable one with the well known ups and downs.

It might be safer to recommend this book than to prescribe otherwise for those who dread seasickness. Thus the responsibility for its success or failure falls elsewhere!

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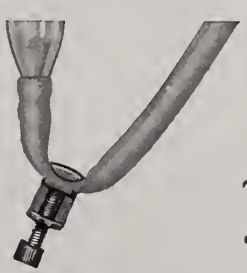
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Baltimore, Md. Volume II. Forty-sixth Series, 1936. Philadelphia; Montreal; London: J. B. Lippincott Company.

Volume two of the 1936 series is composed of three sections dealing with surgery, medicine, and recent progress in obstetrics and pediatrics. In the section on surgery an article by Frank K. Boland, M.D., professor of clinical surgery, Emory University School of Medicine, Atlanta, Georgia, on surgical diseases of the gastro-intestinal tract in children, presents a brief summary and helpful suggestions. The subjects of the two other papers comprising this section are glomal tumors and surgical management of colonic carcinoma.

In the section on medicine the most interesting contribution is that of Harry Mandelbaum, M.D., of Long Island Medical College, in which he discusses the syndrome of hemoconcentration. According to Mandelbaum this syndrome occurs in a variety of medical and surgical conditions; he has discussed in detail the means for recognizing and treating the conditions. Another paper that is quite interesting deals with health and disease as influenced by climatic environment. M. M. Wintrobe, M.D., in his article on the erythrocyte sedimentation test gives inclusive discussion of the subject and helpful suggestions for the interpretation of the results of the test. R. Cannon Eley, M.D., recommends the administration by mouth of placental coagulant for the control of bleeding in hemophiliacs. Other articles in this section include such subjects as diet in the treatment of heart disease, pathological physiology of emphysema, treatment of simple goitre, extracellular body fluid, and nutritional edema.

The two articles composing the section on recent progress in obstetrics and pediatrics include asphyxia neonatorum by Nicholson J. Eastman, M.D., and the use of protective vaccines in tuberculosis, with special reference to B.C.G. by T. C. Goodwin, M.D.

This volume is lacking a clinical and pathological section, but is interesting and instructive.

A. M. WOLFE.

Minor Surgery. By Frederick Christopher, S.B., M.D., F.A.C.S., Associate Professor of Surgery at the Northwestern University Medical School, Chicago; Chief Surgeon at the Evanston (Ill.) Hospital. With a foreword by Allen B. Kanavel, M.D., F.A.C.S., Professor of Surgery at the Northwestern University Medical School. Third Edition, Reset. 1030 pages with 709 illustrations. Philadelphia and London: W. B. Saunders Company, 1936. Cloth, $10.00 net.

It is refreshing to find, in this volume, a complete minor surgery. Our shelves may be replete with short works on minor surgery, written briefly and incompletely, and useful for only the quickest reference or for the beginner to read entirely. Dr. Christopher's book, however, is large, abounding in excellent detail, pictures, and references. It completely covers the entire field of minor surgery, including traumatic surgery and practical orthopedics.

In the back are sections on Minor Surgical Technic and The Surgical Intern. This would be an excellent book for the intern, the young physician, the general practioner, and is a splendid text and reference for any doctor doing this type of work.

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COLORADO MEDICINE.

ruary 17, 1936. The Waverly Press, Inc.

This book is a Festschrift published in honor of this distinguished teacher in American Medicine, containing papers from his present and past associates and house officers at the Peter Bent Brigham Hospital. The volume contains more than one hundred papers, many consisting of reports of original research and unusual cases and a few of excellent reviews. The collection is well arranged in that papers on the same type of subject matter are grouped together. Discussions of cardio-vascular, renal, endocrine, pulmonary, blood, hepatic, nervous, and joint diseases fill most of the volume. As would be expected, many prominent and well known medical authors make up the list of contributors. A register of former and present members of the Peter Bent Brigham Hospital Medical Staff is included at the end of the volume.

As a book this volume is of primary interest to the many who have known Dr. Christian. As a reference source this volume should be indispensable to even the small medical library, for most of the papers contribute original observations and informative data of the type necessary to other investigators in the many fields represented in this publication.

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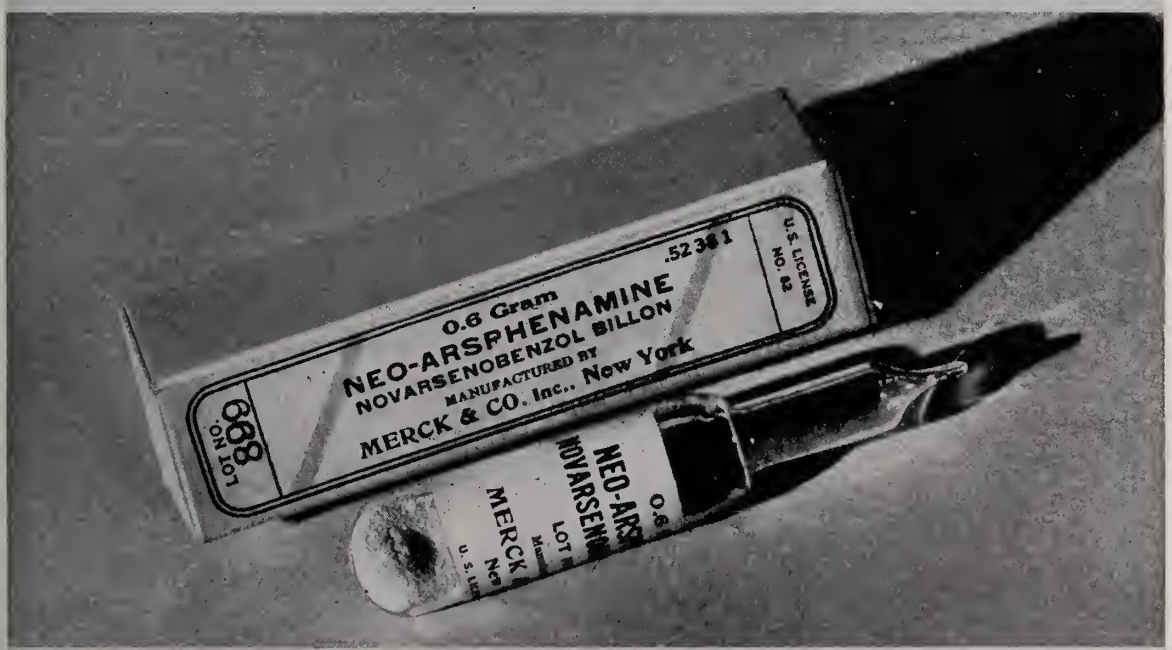
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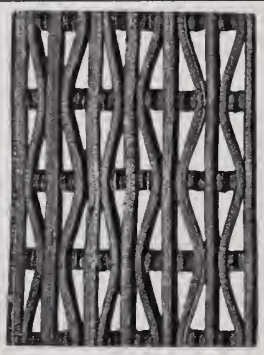
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COLORADO MEDICINE

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VITAMINS IN CANNED FOODS

IV. VITAMIN B_1

• The story of vitamin B_1 is quite long and involved. Properly, it has been fully covered at some length in authoritative dissertations on the vitamins (1).

The original vitamin B of Eijkman and of Funk, while definitely possessed of antineuritic potency, is now known to be of a complex nature. Between 1919 and 1926, the vitamin B complex was resolved into vitamins B (B_1) and G (B_2). Subsequent work has indicated the existence of other vitamins in the complex, whose chemical natures or relations to human nutrition are not as yet clearly understood.

As a direct result of many researches on vitamin concentrates, the chemical identity of the crystalline antineuritic factor has recently been described as a derivative of 6-aminopyrimidine (2).

It has been known for many years that vitamin B_1 may be destroyed by heat. In the canning procedure, a number of heat treatments of food may be involved, especially in the thermal "processing" of the product to insure its preservation. In the "process", many foods are subjected to a heat treatment after sealing in the can, to destroy spoilage organisms which may be present on the raw material. In other cases, the food is filled into the cans at a sufficiently high temperature to obtain the same result. Therefore, the question of the effect of the canning procedures on vitamin B_1 frequently arises.

The times and temperatures necessary for the processing of canned foods are governed by a number of factors, important among them being the pH of the food itself. Highly acid foods require only short heat processes at the temperature of hot or boiling water to destroy spoilage organisms. The so-called "non-acid" or "semi-acid" products require higher temperatures — usually 240° F. (116° C.).

As might be expected, acid foods have been found to suffer only a slight loss of vitamin B during canning (3).

The degree of retention of vitamin B_1 in the non-acid foods is not as high as in the acid foods. (4).

This is partly due to the heat treatments accorded them and possibly also to their low acidity, since the vitamin is more stable in acid media.

The facts in the case may be summarized briefly by the statement that commercially canned foods may be depended upon to supply vitamin B to extents consistent with the amounts of the vitamin originally present in the raw materials from which they were prepared. Because of their widespread use, canned foods contribute a notable amount of vitamin B_1 to the American dietary.

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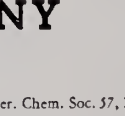
(1) Vitamins: A Survey of Present Knowledge Medical Research Council, Special Report Series, No. 167, 1932. His Majesty's Stationery Office, London — The Vitamins H. C. Sherman and S. L. Smith 1931 Am. Chem. Soc. Monograph, 2nd Edition

(2) 1935. J. Amer. Chem. Soc. 57, 1751

(3) 1932. Ind. Eng. Chem. 24, 457

(4) 1932. J. Nutrition 5, 307

This is the seventeenth in a series of monthly articles, which will summarize, for your convenience, the conclusions about canned foods which authorities in nutritional research have reached. We want to make this series valuable to you, and so we ask your help. Will you tell us on a post card addressed to the American Can Company, New York, N. Y., what phases of canned foods knowledge are of greatest interest to you? Your suggestions will determine the subject matter of future articles.



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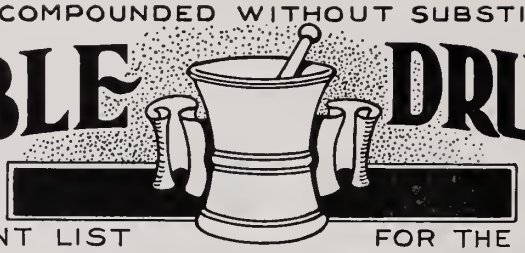
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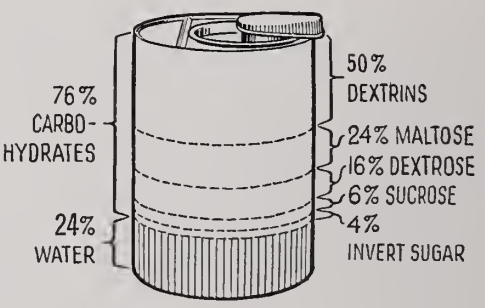


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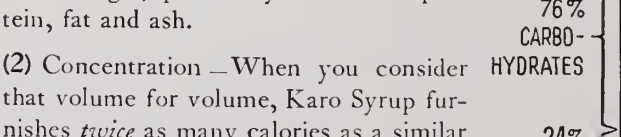
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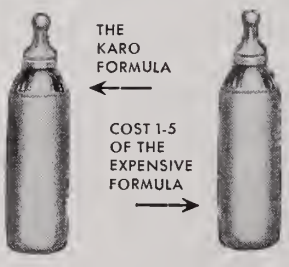


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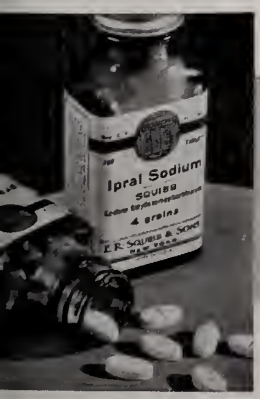
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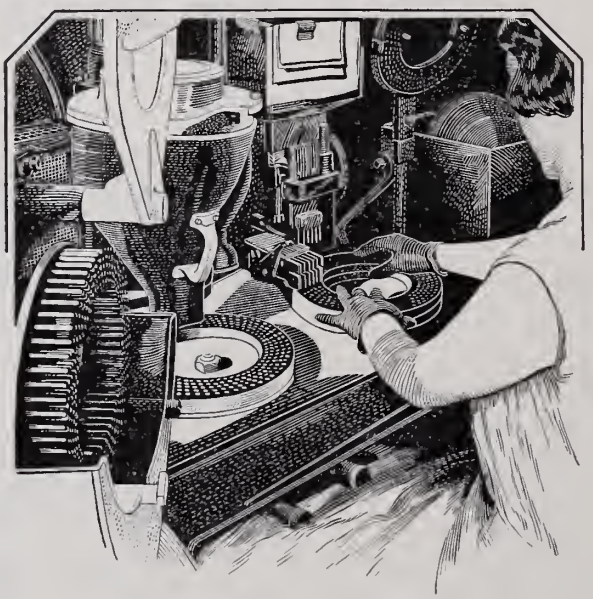


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Colorado Medicine OCTOBER 1936

Editorial

President-elect W. T. H. Baker



W. T. H. BAKER, M.D.
President-elect, The Colorado State Medical Society

THE new President-elect of the Colorado State Medical Society, Dr. W. T. H. Baker, is one of the best known physicians in Southern Colorado. He has been a resident of Pueblo for the past forty years and has been actively engaged in the practice of medicine and surgery for that period.

William Thomas Henderson Baker was born in Genesoe, Illinois, October 4, 1871, attended public schools there, and later the Northwestern Normal School, where he was graduated in 1890 with a B.S. degree. He entered Northwestern University Medical School in 1892, and was graduated in 1896 as a member of the first four-year class of that institution. He was an intern at the Illinois Northern State Hospital, but before his service was completed he was offered a position by the late Dr. R. W. Corwin at Pueblo, Colorado, with the Medical Department of the Colorado Fuel and Iron Company. He remained with this organization for fourteen years, during which time he acted as Superintendent of Minnequa (now Corwin) Hospital, and was later made Assistant Chief Surgeon of the Colorado Fuel and Iron Company. In 1910 he severed his connections with this organization and entered private practice in Pueblo, being associated with Dr. Herbert A. Black. In 1920 Dr. Baker, with Drs. Herbert A. Black, Fritz Lassen and C. W. Maynard, organized the Pueblo Clinic, and later founded Parkview Hospital.

Dr. Baker is a past president of the Pueblo County Medical Society, a member of the Colorado State Medical Society, American Medical Association, and a fellow of the American College of Surgeons. He has done frequent post-graduate work in various medical centers of the United States, and spent one year in Europe in clinics in Berlin, Vienna and Paris.

In addition to his professional duties, Dr. Baker takes an active part in civic and social affairs of Pueblo. He is a director of the McClelland Orphanage, and of the Pueblo Community Chest, and is a Rotarian.

G. M. M.

CAT.

Three Days at a Spa

THE annual retreat is over. The trek of medical doctors, politicians and scientists to the place of their yearly conclave is now a thing of the past. However, memories still linger. Who, for instance, with a penchant for automobile travel, will soon forget the motorists' delight of Floyd Hill, Berthoud Pass, Gore Canyon or the washboard roads of South Park and Independence Pass? Any choice of roads seemed to be the wrong choice. Certainly some must have mused why our governor had not begun to borrow millions from our grandchildren a few years earlier, thus establishing one good road across the state and, in consequence, enhancing his chances of becoming a Denver-Washington commuter. But new contraptions such as automobiles are not a necessity in a progressive state like Colorado. Rapid transit railroad service is available at all hours from the more populous Eastern Slope to the famous spas of the West. This means of transportation proved to be the choice of the "smarter set" of the profession.

Even before the days of the Popular Front government of Premier Leon Blum, France was host to certain distinguished American clinicians for a tour of inspection of her famous watering places. The medical world would be convinced that these spas had a therapeutic value! This year, and in this respect, our State Society went European, abandoned the choice of meeting places of greatest convenience and attempted to "sell" to us members the healing properties of the mineral waters of Glenwood. The effort appears to have been a complete failure, for rumor has it that the Kursaal was completely forsaken in favor of the modestly furnished tap room.

But to the point. The Sixty-sixth Annual Session was a real success. While the attendance was smaller than that of conventions held in more accessible locations, it was nearly double any previous convention held at Glenwood Springs. The hotel accommodations were adequate in most respects. The inviting out-of-door pool was a genuine attraction even without the display of the bathing beauties of the gay nineties. Golfing, motoring and hiking must have had their appeal for, as Stephen Leacock remarked about the attendance of any regular convention meeting, it was apparent that "some couldn't stay." The banquet lacked something in spirit and attendance, but was otherwise excellent. Dr. McClanahan, Dr. Hall and the Hon. Ward Bannister each in his own way made appropriate after-dinner addresses. Just acclaim was rendered Dr. Hall on his attendance of this, his fiftieth annual State Meeting. Few, if any, men in America can claim such distinction.

The scientific program was carried out with gratifying dispatch, following almost exactly the program as published in the September issue of the Journal. Among the distinguished guests were Dr. J. H. J. Upham, President-Elect of the American Medical Association, Dr. Harold N. Cole of Cleveland, Dr. W. W. Bauer of Chicago and Dr. Henry N. Harkins of Chicago.

Particular mention should be made of the half hour that was devoted to the reflections and confessions of the past presidents. It was at once interesting, unique, humorous, and sad. It was obvious that just as a glorious past and a masterful leadership is our immediate heritage, so is a commensurate responsibility.

Special notice should also be taken of the society's approval of the creation of a Medical Foundation. This is merely the beginning. "From little acorns, etc." Pragmatism demands that for an organization to be something, it must do something. We owe much, society owes much to the achievements of our great profession. For the first time in our history it is now made easy and safe for us and our lay friends to do something that will long outlive our puny individual efforts.

Hail the Colorado Medical Foundation.

C. F. K.

Transactions of The Annual Session

LENGTH of the transcript of House of Delegates at Glenwood Springs last month was such that the detailed minutes could not be edited in time for publication in this issue of Colorado Medicine. They will appear in our November number.

While Delegates and others who attended the House of Delegates' meetings are aware of the importance of actions taken, it is doubtful if the average reader can be, even though he may have carefully studied the advance announcements contained in these columns in previous months. We urgently commend the transactions for studious reading next month—take a half-day off to do it, if necessary. The Articles of Incorporation of the Society were amended. The By-Laws were completely revised, clarifying the rights of members, clarifying the powers of the House of Delegates, the Board of Trustees, the Board of Councilors, simplifying many points. The groundwork was laid for important future actions, which members with a forward viewpoint will appreciate.

Tannic Acid-Silver Nitrate Treatment of Burns

STRIKING results in the treatment of burns have been observed during the past two years following the use of tannic acid and silver nitrate. A complete description of the technic was presented in the Symposium on Industrial Medicine and Traumatic Surgery, before the Clinical Congress of the American College of Surgeons in San Francisco last fall by Dr. A. G. Bettman of Portland, Oregon. Publication of this paper appeared in Surgery, Gynecology, and Obstetrics in February of this year. Reports are available on several hundred cases, chiefly from the Multnomah County Hospital in Portland.

In severe burns, the danger is of course less from the burn itself than from shock and other systemic complications. The treatment under discussion apparently minimizes these dangers. Seen early, the patient is given a narcotic as required, fluids are forced, (1000 c.c. per 25 lbs. body weight in twenty-four hours), blebs are opened and loose tissue removed. Fresh 5 per cent tannic acid solution is applied with cotton swabs, then 10 per cent silver nitrate. A protective coagulum forms at once. The patient is placed under an electric light tent; the lesions are kept dry. As the coagulum loosens it is removed. Tissues beneath are often healed and any accumulated moisture shows little or no bacterial growth. The extremities are best held in slings so that the warm air may circulate about and maintain dryness of all surfaces. The coagulum is flexible and permits motion and turning of the patient; the healed surfaces are soft and there is a pliable thick epithelium forming with a minimum of scarring. The loss of body fluids and consequent blood concentration is stopped; absorption of toxic products is inhibited. Finally, the amount of skin grafting and reconstructive surgery is greatly lessened.

The above author has devised a formula for application to any sluggish healing areas following severe burns:

Oxyquinolin sulphate	grains 10
Chlorbutanol (Chloretone)	grains 40
Scarlet Red ointment, 5 per cent	ounces 4
Liquid Petrolatum	drams 4

The first element is non-toxic, antiseptic, and does not destroy growing cells. The local anesthetic action of the second is well known. The stimulating effect of scarlet red ointment is familiar. This mixture may be warmed in a water bath and wide mesh gauze bandages immersed in it. The mesh of the impregnated gauze remains open. Single layers are applied over the deeper burned areas and are changed every second to fifth day. The areas remain dry and heal rapidly.

Men who have observed the splendid well-being and comfort of burned patients treated in this manner are not subjecting such cases to the punishment and dangers of ointments nor coloring them like Easter eggs by dyes. It may be anticipated that the tannic acid-silver nitrate method will supplant all others in extensive burns.

PRESIDENTIAL ADDRESS*

A. J. MARKLEY, M.D.
DENVER

I welcome this, the earliest opportunity, to express to you my very sincere appreciation of the honor and privilege of serving as your presiding officer for the coming year and to assure you that I am not unmindful of the responsibilities and obligations incident to that undertaking.

Many of those whom you have previously thus honored have by their personal qualities or their professional achievements greatly adorned this office. That you will not expect me to do. You will, however, rightly expect that the torch be kept alight, and to that end I now pledge my very best efforts.

To conform to time-honored precedent of this Society its newly-installed president should present a formal address, constructive or inspiring in character, on some subject of especial importance or of general interest to the profession; on this occasion, however, that custom must be honored more in the breach than in the observance since I have no talent for inspiring address and no constructive message to deliver.

There are, however, many problems in the attempted solution of which this Society should take an active part; some are old, some new and some can never be solved, but we like Sisyphus ever striving to solve them must consider and discuss them on occasions such as this, and for the time here allotted I hope to engage your interest in a brief consideration of at least one of these problems.

Many of us who are conservatively inclined have been during the past few years greatly perplexed and disturbed by the crusading efforts of individuals and small groups, often well intentioned but misguided, to effect reforms and reorganizations in some of our institutions which have long seemed permanently stabilized and generally satisfactory. The success of many fully organized and vigorously militant minorities in gaining control and influence over social, economic, political, financial and even governmental agencies has created a situation which in the opinion of many is destined to end in disaster.

That certain of these crusaders have for their objectives changes in the methods and principles of medical practice is made evident by a list of the changes proposed, of which may be mentioned: Sickness insurance, mass treatment of venereal disease, hospitalization insurance, prepayment-contract service, corporation practice, mutual benefit associations, plans for providing medical service to the indigent and semi-indigent and the numerous variations of socialized medicine and the state medicine of European countries.

With these proposed innovations you are, of course, generally familiar since they have been discussed in our local societies and have been given detailed consideration by the appropriate agencies of the American Medical Association. We are, therefore, fully aware of their existence and recognize them as a potential disruptive influence upon our established system of practice, but we do not so generally recognize how imminent is realization of the threat which they constitute. Dr. Fishbein has recently said that[1] "We do not want socialized medicine, that we oppose it not on grounds that are theoretical, but because it would inevitably result in deterioration of the quality of medical service, destroy initiative, inhibit research and take from medicine the personal factor which is fundamental to good medical care, and further that the failure of our doctors in general to respond to the appeals of propagandists for socialized and state medicine is evidence that such a system is not likely to appeal to American physicians."

With this belief we are in general accord and are confident that with the passing of the current period of unrest and apparent determination to revolutionize all existing

*Delivered at the Sixty-sixth Annual Session, Colorado State Medical Society, Glenwood Springs, Colo., Sept. 10, 1936.

forms of social relation that the medical profession will be as always animated by idealism and continue to exhibit its traditional spirit of devotion to service.

There are many others, however, who see in any form of change involving the medical system only a phase of an evolutionary process that affects our whole social order, and that whether or not we approve we must accept certain inevitable modifications of the method of rendering medical service.

In a recent address the medical historian, Sigerist, has said that[2] "Twenty years ago there could have been no thought among medical men of the necessity for discussing social and economic problems. This does not mean that there were no such problems at that time, but that the medical profession then felt secure, the individual physician had his definite place in society, he followed the call of his profession and in doing this was sure to have an income, but things have changed. What are the things that have changed? To put it briefly a new society has developed in this western world, highly industrialized and highly specialized. At the same time a new medical science has developed, highly technical and also highly specialized; the natural sciences and technology were the revolutionizing forces that transformed both society and medicine; this was a slow and gradual process but the day has come when we have become aware of it. In the medical field as in other fields there is today a conflict between a new reality and a desire to retain an old form. What shall we do? Shall we stand aside letting things go on and then complain if we dislike the development; or shall we take an active part in the evolution that is certain to come?"

Ignoring this situation is not to be thought of, but whether we elect to resist all change or attempt to control and guide such change as appears inevitable it is certain that we as individuals can accomplish nothing, only group action can be effective, but group action to be really effective must be properly organized and directed.

A prerequisite for efficient organization, however, is a well-developed group consciousness and of all occupational groups the medical profession is perhaps the most nearly devoid of group consciousness. Because of the nature of their work physicians are prone to become strong individualists and are often outstanding and influential figures in their community, but among themselves they do not develop a cooperative spirit as do business men and workers in other professional fields; they are intolerant of the methods of organized activity and impatient with its delayed results. For these reasons medical organizations have been in many ways ineffective. They have not been accorded the recognition and consideration that are commensurate with their potential value to their community. They have had little or no influence upon public opinion, even such opinion as should be guided by expert and official medical advice, and it has always been difficult to interest doctors in matters outside their medical activities, even when legislation and changes in social and economic conditions were affecting their vocation.

They have individually submitted to injustices which, fastened upon the profession as a whole, have grown into a serious problem with which you are familiar in the many abuses to which the medical profession has always been subjected: the innumerable forms of imposition upon the services of the physician, upon his time, his comfort and convenience, his generosity and even upon his economic need; with the exploitation of the individual and often of large groups of the profession by business, charitable, philanthropic and other agencies under the specious plea that such service is compensated by experience and extended acquaintance.

Of less importance are the numerous troublesome and disturbing situations that inevitably develop within the organization from the contacts of personalities so virile and diverse as those composing medical societies.

These observations which might be in-

definitely extended are presented to emphasize further the growing belief that if we are to meet successfully the difficulties above outlined and those that will be increasingly presented we must increase the efficiency of our organization and enlarge the scope of its activities to include consideration of those social and economic factors that have been introduced into our medical problems by the developments of the past few years.

Now, you may say that we have just such an organization, that the American Medical Association and its component parts constitute the largest and most powerful medical organization in the world and this, of course, is true. But that organization, in the minds of a great number of its members, exists only as a magnificent force and influence for the development and dissemination of medical knowledge. It is true that the officers, the committees and many devoted members of national, state and county societies have long made earnest and active efforts to develop a practical method of dealing with the varied new and unfamiliar problems that affect the present day practice of medicine. That they have accomplished much is shown by the many county and state societies that have adopted and put into apparently satisfactory operation plans devised by these devoted workers, but most of their reports and suggestions lie buried in society records and too many of the profession as yet remain unimpressed by the nature of these activities or by the need for them.

Our immediate task then seems to be the stimulation in our membership of a desire for better understanding of the problems of this Society and of increased interest and wider participation in its affairs, an interest and a participation that is not limited to our scientific work but extends to those problems that are too often thought fully disposed of by passing a resolution and referring it to a committee.

For a more detailed consideration of this particular phase of a most important subject I urge you to read the current report of your Committee on Medical Economics; and now perhaps this idea may be better developed by commenting separately upon a selected few activities such as above suggested.

Politics

The proposal that this society increase or engage in additional forms of political activity may be opposed as wholly contrary to our traditional policy, but there is no doubt that medicine has been deprived of many rightful advantages by a too rigid interpretation of its code of ethics. Much of our most valuable medical knowledge can be put to its best and proper use only through the medium of the right kind of politics, the kind of politics in which we have not only the right to engage, but have imposed upon us as a definite obligation to do so. In this connection I commend to you the report presented last evening to the House of Delegates by our retiring Committee on Public Policy. To again quote Sigerist[3] "We cannot afford to be politically indifferent. Politics is everything in life and in the medical field as well. Whether medicine succeeds or fails, whether the arts and sciences flourish or starve is ultimately due to politics. We are fighting to improve the public health; we have the actual knowledge required to prevent and to cure many diseases, to save numberless people from premature death, but whether we can apply that knowledge fully, depends more upon the statesman than upon us. The actual task is political."

Of this there can be no better illustration than the general recognition by governments that the protection and conservation of the public health are among their primary functions. As a governmental function, however, the public health service is brought into the realm of politics and there it becomes a matter of proper interest and concern to the medical profession, an interest which should extend only so far as insisting that the service be made as efficient as possible and that appointments to it be not made for political reasons only nor in furtherance of any political end.

The medical profession as a whole has had a definite part in the development of the health services to their present state of efficiency, and it is probable that their further progress depends upon a continuance of that cooperation as suggested by one of our guest speakers, Dr. W. W. Bauer, present today[4]. "There is a rising tide of sentiment in the medical profession today that doctors must give more and more attention individually and as societies to educating the public in health. This feeling is shared by public health officials, many of whom have come to realize that there is a point beyond which mass movements in health education are ineffective. As the conquest of illness traceable to hygienic errors and to contagious disease progresses, the degenerative diseases gain in prominence. These are by their very nature individual problems and can be reached only through personal cooperation between the patient and the physician. This in turn can be brought about only when the practicing physician takes a keen interest in public health and in health education."

The success of such a program, however, might have quite unforeseen consequences. It could conceivably determine the whole future trend of medicine and the methods of rendering medical service. If carried to its logical conclusion it might eliminate entirely the so-called preventable diseases and as a further phase eliminate the present system of private practice.

I quote an outstanding advocate of socialized medicine who envisions a health service developed to such a degree of perfection[5]—"It is unfortunate from every standpoint that the procedures of preventive medicine, which are in my mind the real medicine of the future, have had to be developed by public agencies rather than by private practitioners. It would appear that there is a real and fundamental incompatibility between the private practice of medicine as it is organized today, and the general practice of those preventive procedures which seem to offer most for the future of individual and community health. Real preventive medicine requires a continuous relationship between physician and patient. It requires that the physician's contact with his patient be not limited to those brief periods of actual disturbances of health that occur at irregular intervals. It requires that certain services be rendered at stated times; immunizations and examinations of special sorts should follow a regular and invariable routine. It requires, for a large part of the population, at least, an amount and quality of service which cannot be paid for on the usual fee basis. It probably, for a considerable proportion of the population, must needs be rendered at public expense. It will require, probably, if it is properly to be done, organization and systematization to the end that the service may be rendered efficiently and at reasonable cost. If in our preventive program a certain amount of treatment must be rendered, this treatment must be considered as given for the benefit of the community in which the individual lives rather than for his own. It would seem to us logical to believe that these preventive procedures must inevitably become a part of any system of medical care and that any system which limits itself solely to cure, and which is apparently incapable of rendering these preventive services, will inevitably be superseded."

While we need not perhaps anticipate the early realization of such a vision, it indicates to what lengths the idea of socialized medicine may be carried and how completely it contravenes our present conceptions of medical service, and we cannot be politically indifferent so long as such a purpose exists even as an ideal.

There are many other administrative and legislative activities in which we have a legitimate interest and "one of our most important and socially valuable functions—and certainly our most thankless activity—is that of interpeting and influencing medical legislation, and while it is certain that these efforts to establish and maintain adequate standards of medical service and to protect the public health we will be accused of selfish and even anti-social purposes in

opposing the efforts of some of the cults to obtain the recognition and protection they seek from the state," it is equally certain that none of our suggestions or recommendations will be effective unless they come from a recognized and unified organization.

Publicity

The medical profession has long maintained an attitude of active disapproval of all forms of publicity which directly or indirectly by statement or inference gain the attention of the public and create the impression that the individual or organization concerned is one of extraordinary attainments or is the possessor of unusual skill, knowledge, experience or success in the treatment of disease.

The line of demarcation between this practice and the methods of commercial advertising is very indistinct and it is so constantly appearing in new and unexpected guise that the profession has been wise to continue its ban against it, but even though prohibited by our Principles of Ethics "'it requires constant vigilance to prevent its intrusion."

In its efforts towards preventing this very objectionable practice, however, the profession became somewhat overscrupulous and extended its prohibitions against self-exploitation until they included expressions of opinion, statements or information concerning medical matters of any kind, even medical personalities. These restrictions have been recognized as an actual disservice to medicine since there is a proper and desirable public interest in the constantly increasing number of contributions to and advances in the science of medicine. The news value of such matters is fully appreciated by the press and radio services, and sensational and often harmful use of them has occurred.

More than twenty years ago the Judicial Council of the American Medical Association recommended the issuance by County Societies of "'accurate and authoritative information on medical matters of interest to the public, particularly such as might aid in the protection of the public health, its purpose being to acquaint the public with tested and useful medical knowledge and not to advertise or sell medical services." Such a plan has for many years been followed by the headquarters of the American Medical Association, and was adopted by many county and state societies. It has not been pursued as persistently and effectively as was hoped, but at least the secretaries of county societies and the executive secretary of the State Society should act as official sources of medical and public-health information to the lay public, and I again refer you to the report of our Committee on Public Policy, which stresses the importance of doing this.

At present then our Principles of Ethics brands as unprofessional and unethical and in effect prohibits only those forms of publicity that can be interpreted as being self-laudatory or boastful, promising cures or soliciting patients. These limitations, therefore, leave individual physicians and medical societies abundant opportunity for legitimate publicity of a kind which in reasonable amount and presented in a dignified manner would be beneficial to both the public and the profession. The public is entitled to know more about what our profession is doing and proposes to do, more about medical advances and about future medical possibilities, more about medical institutions and even medical individuals.

Our relations with the public press should be on a more cordial and understanding basis; regardless of the radio, the newspaper is yet the most important medium of quick and direct information to the public and as such is a basic factor in any public policy we may adopt. Newspapers are entitled to accurate and authentic information on medical subjects, and if properly approached they will not violate our restrictions on such matters. We should establish mutually understanding relations not alone with newspapers but with radio stations, chambers of commerce, tourist agencies, and charitable organizations, all of which should be informed that the coun-

ty and state medical societies have available for their use medical and public health information, theirs for the asking. Much of our difficulty regarding publicity has come from misunderstanding on the part of public agencies of our attitude and the reasons for it, and we can well afford to make a special effort to remedy this situation and show newspaper editors just why we object to the use of individual mention in stories and articles about medical matters.

I submit a few concrete suggestions to county and state organizations that may crystallize our thinking on this subject:

1. Annually or more often every newspaper, radio station, chamber of commerce and other public agency such as above referred to, be given the name of the secretary of the county society and informed that facts relating to medical and public health matters can be obtained through that office.
2. Place a copy of the Principles of Ethics in the hands of the editor of your paper, discuss it with him, and explain it to him. Many laymen and even editors believe our code of ethics to be a secret and mysterious document hallowed by age; perhaps even some of you do not know that it is published annually by the American Medical Association together with any revisions made that year by its House of delegates.
3. Consider the possibility of a workable plan for listing names of physicians in telephone directories, indicating in a dignified non-solicitous manner those who limit their practice. This information can often be obtained in no other way.
4. Accept opportunities to cooperate with lay organizations in disseminating medical information that is useful to the public. There is nothing unethical or improper in publicizing the fact that Dr. Jones, representing your medical society, is to address the Chamber of Commerce on modern methods for the control of tuberculosis, for instance.

Finally, anything which interests and instructs the public in scientific medicine and public health matters is good for the public and for the medical profession and should be properly publicized.

Hospitalization Insurance

Among the almost incredible number of plans offered for the purpose of adjusting the cost of modern medical service to the financial abilities of that large group of our population having fixed or much reduced incomes, is one that seems to promise definite possibilities of satisfactory application to a recognized need. That is Hospitalization Insurance.

The basic idea can be made apparent to you by the experience of the Alameda County Society in California, where a law permits "the formation of non-profit hospital service corporations under joint management of hospitals and the medical profession without deposit of any sum with the insurance commissioner."

Policies provide for payment to the hospitals for service and for indemnifying patients for payment for certain special services as the law prohibits sale of the services of a physician. Many insurance companies are now issuing policies of this type and many new plans are being offered in this state by private agencies. It is evident that there is profit in the enterprise and those who are to benefit by such insurance should not be subjected to the additional burden of a profit to anyone; then, too, unreliable agencies always intrude themselves into new ventures such as this.

Our Committee on Economics has dealt forcibly with this subject in their current report. Please read it. They suggest "that positive action should be taken by our profession so that we can either finance the care of the sick or be in a position to direct such financing."

It is possible that changes in the Articles of Incorporation of this Society will permit such action, and if not, proper legislation could be requested. And finally I wish to express the hope that our House of Delegates at this session will direct an investigation into the advisability of some such plan and suggestions for putting it into effect.

We have been slow in joining the general movement to adjust our methods of practice to changing conditions. The time required to achieve results has in other localities often proved to be very long. We should

avoid too great delay or the initiative will be taken from us to the definite disadvantage of both the public and ourselves.

None of the thoughts here expressed is either new or original; they have been assembled and are now offered as part of a general effort to increase the prestige, the influence, and the usefulness of the Colorado State Medical Society. This title should be the generally recognized symbol of a virile organization alert to protect the rights and interests of its members, devoted to the maintenance and enforcement of reasonable standards of medical education and practice, the source of authentic information on medical subjects of any kind, interpreter and advisor on legislation affecting medical service or the public health, always mindful of its major obligation to advance the knowledge of our science and art and improve the methods of their application.

Of these objectives many have been attained. All can and should be. We have the organization, we have the membership, we have the machinery; but the fuel, which is your cooperation and support, you must supply or the machine will not function.

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PRACTICING PHYSICIANS AND THE PUBLIC HEALTH WORKERS

W. W. BAUER, M.D.
Director of the Bureau of Health and Public Instruction, American Medical Association

Among the numerous and startling evidences of progress which have featured the history of the last century, none is more significant than progress in the medical sciences. One hundred years ago, physicians practiced medicine without ether, without chloroform, without knowledge of germs, without understanding infection and immunity and without the ability to perform surgical operations which are commonplace today. Laughing gas was not used until 1840, and the other anesthetics not until even later. Considerations of the public health were based on limited personal experiences and often on erroneous reasoning. The part played by mosquitoes, lice, ticks, and other insect carriers of disease remained for the most part unsuspected. Today, knowledge has progressed to a point where we are less disturbed by its lack than by its complexity and the apparent impossibility of assimilating and coordinating it all in one professional lifetime.

One hundred years ago, the practicing physician was the only health officer there was. He knew about the spread of disease to a limited extent. The investigations of William Budd on typhoid fever, the work of Jenner on vaccination, the clinical descriptions of disease by Bright and Sydenham and other clinicians in past centuries show quite clearly that these practitioners were alert and observing, and that what they lacked was modern weapons for investigation and not the ability to observe and to reason from their observations. With the introduction of anesthesia and asepsis, the practice of medicine was emancipated from two of the great obstacles to successful surgery, pain and infection. With the further advance of knowledge in bacteriology and its allied science, immunology, medical practice was given the weapons for the successful battle against the communicable diseases. It became evident that there were certain measures for the public health which must be enforced by the community and not by the individual doctor. Physicians

*Read before the Colorado State Medical Society, Glenwood Springs, Colorado, September 11, 1936.

were among the first to recognize the necessity for participation by government in the control of communicable disease.

Along with improved knowledge of the causation of disease, the rapid growth of cities demonstrated the necessity for a community control of conditions affecting the health of the people. This influence was described by Haven Emerson in his article "Our Robust Cities"[1] in which he likened the growth of modern cities to the growth of bacteria on a culture plate. The bacterial mass grows to a certain point and then having poisoned its own life, it begins to die out at the center. The aptness of this comparison is evident all about us, especially in our greater cities with their slums and blighted areas. It became apparent that man with all his vaunted intelligence was not able to live in a community with his neighbors except under some sort of official compulsion to conduct himself in a clean and sanitary manner.

The earliest manifestations of public health work were sanitary inspection and the quarantining of communicable diseases. In those days, the policeman's star and the shotgun were the principal qualifications of the health officer, aside from his acceptability to the political party in power. The ordinary conception of public health work was to receive reports of contagious diseases, to tack a sign on the door, post a deputy sheriff with a shotgun on the front porch to insure compliance, and when the disease had ended by death or recovery, to fumigate the premises with evil-smelling mixtures and to cause needless destruction of property, such as the burning of mattresses, bedding, and even furniture, which had been used by the patient, and frequently tearing off the wallpaper and replacing it with new. Nobody knew any better.

Time does not permit, nor is it necessary, to trace in detail the various steps by which public health was released from the bondage of misconception and ignorance. The growth of bacteriological information had much to do with it. Out of the knowledge of bacteriology grew the sister sciences of epidemiology and immunology. Forward looking health officers led by Chapin[2] began to point out that persons and not things constituted the real menace in the spread of communicable diseases. The uselessness of fumigation in communicable disease control was exposed. The importance of terminal disinfection at the end of the case was minimized in favor of the daily practice of cleanliness, known as concurrent disinfection. The importance of carriers became recognized. Antitoxin followed upon the discovery of disease causation by germs. **Treatment** of certain disease such as tuberculosis and syphilis became accepted as the best mode of **prevention.** Health officers recognized the value of the public health nurse as a teacher of proper health habits and practices. The protection of the public health became a major function of government, recognized more and more as a necessity if our modern communities were to survive. A considerable factor in this enlarged conception of the obligations of a public health department was the increased necessity for dealing with the patient as an individual instead of with the public as a mass. Particularly in the fields of immunization and child welfare, health departments began to be tempted to enter upon the practice of medicine.

It is easy to see that there are two forms of medical practice, preventive and curative. From this very simple basis, it is also quite easy to see that health departments ought to practice medicine, if at all, only in the preventive sense. It is not so easy to translate these simple principles into appropriate action under all circumstances. The early problems were not much complicated, but a feeling has grown up since the Great War, that more and more the government should undertake to furnish medical care for all the people. Leaving aside this comparatively recent development, we may give consideration to the problem of the health officer who has taken an oath to protect the health of the public, and who is conscientiously endeavoring to fulfill his obligation. Perhaps a few specific examples

would serve to illustrate situations in which he may find himself.

It is undisputed by any scientific group that smallpox is a preventable disease by the relatively simple application of the procedure introduced by Jenner and known as vaccination. Strictly speaking, of course, vaccination against smallpox is only one form of vaccination, but when we use that word alone, everyone understands what we mean. From a scientific standpoint, vaccination is a dependable and highly safe procedure, which, if performed in time, prevents smallpox under almost all circumstances. From the standpoint of the public welfare, therefore, and in view of the destructive character of smallpox, there would seem to be no argument about the advisability of universal vaccination. Efforts have been made to compel it by law, but there is no state in which legal requirements for vaccination do not have some sort of loophole, usually caused by Christian Scientists, cultists, politicians, or nitwits influenced by one group or another.

Physicians recognizing the necessity for vaccination have, nevertheless, failed to induce their patients to be vaccinated. They have left that matter to the health officer. The health officer has proceeded as best he could to procure vaccination. Public indifference has forced him to procure vaccination by the only appeal which seemed to reach the citizens in his jurisdiction, namely, free vaccination at community expense. Moreover, he has actually been forced to carry the facilities for free vaccination into the very schools where parents would be put to no extra trouble to safeguard their children against the ravages of smallpox. All this is a deplorable commentary on human nature, but it reports the facts as they are. The very success of vaccination in eliminating smallpox has worked against the universal practice of vaccination because short-sighted individuals who have never seen a severe case of smallpox are disposed to doubt the danger and even to lend willing ears to the propaganda of the anti-medical groups who minimize the dangers of smallpox and magnify the supposed horrors of vaccination.

With respect to diphtheria immunization, the situation is very much the same. It has been and still remains somewhat easier to procure diphtheria immunization than smallpox vaccination. The reasons are easy to understand. Vaccination leaves a scar, the administration of toxoid does not. Vaccination was discovered prior to knowledge of bacteriology and some of the earlier results were lamentable; immunization against diphtheria is a product of the bacteriological age, and infection was preventable from the start. Black smallpox is outside the experience of most persons, even of the older generations living today; black diphtheria remains a horrible memory in many an adult who still grieves for the loss of children dead in infancy from this scourge. Yet the underlying principles are the same. In order to procure the required percentage of immune children under the age of five years, to assure his community against epidemics, it has been necessary for the health officer to beg, persuade, and bully his clientele into availing themselves of immunity for their children.

I might multiply these examples, but I think the point is clear. Vaccination was discovered by a doctor. The cause of diphtheria, the toxin, the toxin-antitoxin, and toxoid were developed and promoted by physicians. Yet the physician in everyday practice within the last thirty years has not continued as did his predecessor to urge vaccination among his patients. He has left it to the health officer, and the health officer has been compelled to meet the challenge.

In the early days of public health work when sanitary inspection, the building of sewers, the extension of water-mains, the administration of quarantine, the anti-spitting campaign and the community cleanups were in progress, health officers and physicians were in close cooperation. When the health department began to undertake medical work, the doctor began to look with disapproval on certain practices which grew up in public health circles. Thus far

I have presented the viewpoint largely of the health officer, drawn from my own experience as a public health official. The viewpoint of the doctor is as readily understandable as that of the health officer. The doctor knows that medical treatment involves a number of factors other than routine administration of vaccination or other preventive treatment or the routine examination of individuals in baby clinics, school health examinations, and pre-school health programs. The doctor knows that there is a fundamental weakness in mass production methods when applied to individual patients. The clear-sighted health officer knows it, too, and when he proceeds in spite of this knowledge, it is sometimes because he is confronted with a Hobson's choice. He is sometimes put in a position where the end appears to justify the means.

The objections which physicians raise to the practice of preventive medicine by health departments are as follows:

(a) The application of even the simplest inoculations to large groups of persons without previous investigation of their medical history or examination into their physical condition involves hazards which can not be adequately avoided.

(b) The making of relatively hurried and superficial examinations in baby clinics, pre-school health programs and in the schools creates a wrong impression as to procedures which constitute a true physical examination, and is, therefore, misleading in its effect.

(c) Recommendations for corrections of physical conditions found in the course of a single physical examination are misleading because they are based on inadequate observation and they tend to create a state of confusion in the public mind when disagreements exist between doctors attached to the health department or the schools, and the family doctor or specialist to whom the patient is referred for correction.

(d) The interposition of a governmental agency between the family and the physician tends to undermine or even destroy the necessary confidence which should exist between the family and its physician.

(e) The administration of preventive medical treatment gratis by the community creates the impression that a valuable commodity may be had without charge, when in truth, the expense thereof is borne by the community.

(f) Indiscriminate preventive service to persons of all economic strata regardless of their ability to pay, creates an unfair distribution of costs upon the taxpayer, placing some of the burden of caring for the well-to-do upon the relatively poor owner of small properties.

(g) Competition of government with private medical practice will ultimately tend to lower the quality of medical care.

It is necessary to recognize that there have been many instances of communities in which too much enthusiasm on the part of health officers for the extension of their department program has resulted in much misunderstanding between the department and the medical profession. On the other hand, there have been instances in which the medical profession has been unwise in its attitude toward necessary health programs. For the most part, physicians and public health officers have proceeded in harmony to solve the health problems of their community. The situation was outlined in an editorial in the Journal of the American Medical Association[3] in which it was pointed out that:

"The medical profession has not been content with raising the standards of medical education, improving the quality of proprietary medicines, fighting quacks within its own ranks as well as without, and aiding in the development of the modern hospital; but has taken an active part in creating organizations, both governmental and voluntary, designed to improve the public health. Then, unfortunately, it has too often allowed these organizations to become alienated from medical guidance and advice. In consequence, some workers in the field of public health have forgotten or overlooked the importance of the medical profession. They have designated themselves as specialists and their field of endeavor as a specialty, but they have failed to recognize that public health is a specialty of medicine. True, a well-rounded public health program requires nurses, engineers, technicians, and educators; but all these must be guided by underlying principles. Significantly, perhaps partly as a result of economic stringency, now that adequate budgets are hard to get and public services which have been regarded as essential because long established, are threatened, workers in public health are turning back to the medical profession."

There seems at this time very little difference of opinion between the majority of the medical profession and the majority of public health officials, that the two groups are not natural enemies but natural cooperators, and that the physician must have a central place in the public health program for the following reasons[4]:

(a) That the objectives of the public health workers are essentially idealistic, as are those of the physician.

(b) A successful program toward better health must be a practical movement, to which the physician's contribution is essential.

(c) The physician has the best opportunity to apply public health practices where they will do the most good.

(d) The medical profession, as a whole, has

always answered its obligations toward the public in a spirit of idealism tempered by experience.

(e) Public health rests on research, and the medical profession has always been a leader in research.

(f) The physician knows community health needs in a peculiarly intimate manner possible only to physicians and the clergy.

(g) The physician commands public confidence.

(h) The physician can make important contributions to health education.

Recognition of the situation briefly outlined thus far can be found in a number of evidences, of which I propose now to name for you just a few. Let me emphasize that these are a few instances only, selected more or less at random from the records of the Bureau of Health and Public Instruction. The first instance is from the State of Connecticut[5]:

"Realizing the importance of a disease that causes the death of approximately 2,000 persons a year in Connecticut, the 1935 Legislature authorized a study of the cancer problem as recommended by the State Medical Society committee appointed to investigate the matter. This committee, in collaboration with the State Department of Health, has developed a plan of attack upon the cancer problem which seems to be best suited to the needs of the people of this state. The present organization consists of the Tumor Committee of the State Medical Society and subdivisions, consisting of a Scientific Committee and a Committee on Publicity, working in conjunction with the Division of Cancer Research of the State Department of Health.

"The Scientific Committee is responsible for the establishment of tumor clinics at various strategic points throughout the state and, through its Sub-Committees on Pathology, Therapy, and Records, maintenance of minimum standards. In this way, standardization of the clinic records of cancer cases is made possible and valuable information obtained. The plan also makes possible the exchange of information and experience among the various clinics. Moreover, important statistical information is secured, such as the length of time patients delay before seeking treatment, the reasons for such delay, the types of cancer treated, and the kinds of treatment used, as well as the results of the various treatments.

"The Publicity Committee disseminates information on cancer to the medical profession through medical society meetings, tumor clinic conferences, hospital staff meetings, and bulletins to the profession.

"The State Department of Health, through the Cancer Research Division, acts as a clearing house for cancer statistics, classifying and tabulating them. Mere records of all cancer deaths in Connecticut are filed, and sorted as to age, sex, race, residence, etc. Further classification as to type of cancer, location in the body and any other pertinent fact, is also secured.

"In addition, this Division writes articles, subject to approval by the Publicity Committee, for general distribution. It also arranges for radio talks and lectures, and issues articles for publication in the newspapers of the state.

"The establishment of seventeen tumor clinics in as many different hospitals throughout the state, makes available for any doctor facilities for diagnosing and treating his cancer cases heretofore unobtainable except at considerable expense. At present, there is no reason for any cancer case in Connecticut to go without the most approved, up-to-date, scientific treatment."

The next sample comes from Philadelphia where the Philadelphia County Medical Society has created a Section on Health Department Cooperation. From time to time there appear in The Weekly Roster and Medical Digest, the official bulletin of the Society, articles on cooperation with the health department. In one issue[6] appear form letters by which physicians may notify their families of the necessity for immunization against certain diseases (smallpox and diphtheria primarily). These letters are obtainable without charge at the office of the society and may be mailed by physicians to their patients. This information also appears in display advertising form in another issue of an earlier date[7]. In another issue appear recommendations for the administration of whooping cough vaccine by Sauer's method[8]:

"In recent communications of The Philadelphia County Medical Society the Society urged its members to adopt a policy of year-around practice of preventive medicine, particularly the immunization of children against infectious diseases. Your attention is now called to the following suggestions concerning whooping cough immunization."

The description of the Sauer technic, which follows, is here omitted, but I quote the closing paragraph of the article:

"Your patients will appreciate your interest in protecting their children with these measures."

Significant of the broad interest in preventive medicine which is being taken by the Philadelphia County Medical Society is the existence of its Committee on Poliomyelitis and Encephalitis, also described in the Weekly Roster and Medical Digest[9], and in the same issue an article on the periodic health examination from which the following is taken as a pertinent summary of what I conceive to be the place of the practicing physician in preventive medicine[10]:

"The medical practitioner who is alive to his responsibilities and who has families under continuous observation is in position to render in-

valuable aid to the individual as well as dispense incalculable service to the community."

The next illustration concerns itself with evidence of an active interest in health education as set forth on the part of the Illinois State Medical Society[11]. It takes five closely printed pages, merely to outline the activities in health education of the State Medical Society, and only a few outstanding facts can be presented here, such as the scheduling and furnishing of speakers for 564 health programs for lay organizations, the arranging of monthly programs for the Chicago district of the Illinois Federation of Women's Clubs, as well as special programs for health institutes, Y. M. C. A.'s, P. T. A.'s, and other groups; 280 radio health talks over six stations; the participation of almost 1,500 physicians in preparation of radio talks in the last seven years; the furnishing of 10,000 reprints and more than 1,000 radio talks in mimeographed form to Illinois libraries and the contact with numerous lay organizations in their public health interests; the sending out of almost 9,000 articles to Illinois newspapers exclusive of news notes about medical meetings.

In Wisconsin, the State Medical Society and the State Board of Health are in close cooperation in a goiter prevention program which is being carried out and directed by the State Medical Society[12]. In Wisconsin, also, the Milwaukee County Medical Society has established diphtheria prevention movements, smallpox vaccination campaigns, and is working on periodic health examinations through a health council. The Milwaukee County Medical Society has adopted the idea long used by health departments of issuing a birth certificate to be given by each doctor in attendance upon maternity patients; on the back of this certificate is the space for recording the necessary immunizations against diseases and the recommendation to bring the baby back to the physician for this service at the appropriate time[13].

In Pennsylvania, we find an extensive program of health education and participation in movements for better health. The first Pennsylvania health day was held in 1932[14]. Numerous county medical societies participated. The Medical Society of the State of Pennsylvania has its own campaign for periodic health examinations and for cooperation with the Woman's Clubs of the State[15]. It also did an outstanding piece of work in connection with its Emergency Child Health Committee[16]. It prepares newspaper releases which county societies may use for a daily health column in newspapers in the county, and more than 300 papers are reported to use the service[17].

In Charleston, West Virginia, Cabell County Medical Society has worked in cooperation with the health department for diphtheria immunization and also participated in a school health program[18,19]. In Boone County, West Virginia, the medical society has helped to work out a program of participation in general disease prevention[20].

Almost everyone is familiar with the leadership manifested by the Wayne County Medical Society, and the Health Department of the City of Detroit in the so-called Detroit plan, described originally by Geib and Vaughan in the Journal of the American Medical Association[21], and also in a brochure published by the Detroit Health Department, the Wayne County Medical Society, and the W. K. Kellogg Foundation[22]. There are numerous other references in the literature to this plan.

In your own State of Colorado, you are sufficiently familiar with the contributions of organized medicine to the public health so that I mention them merely in order that you may know that they have not been overlooked. I refer to the activities of the Colorado State Medical Society, and its journal, Colorado Medicine, in relation to improper sewage disposal in Colorado[23,24,25]. Your Committee on Cancer Education which has sent six teams of physicians through the State to deliver a symposium on cancer is another indication of recognition of the public need[26]. I shall not attempt to go into detail with reference to the five columns of detailed information which comprise the report of the Special Committee

on Public Health of your State Medical Society[27] as it appears in Colorado Medicine for October, 1935. At that same meeting, reports were received from Committees on Tuberculosis Education[28], Nursing Education[29], Post-graduate Education[30], and cooperation with allied professions. All These are evidences that the Colorado State Medical Society is alive to its obligations toward the public health.

In short, a modern attitude toward the relationship of health departments and practicing physicians demands not only that there shall be harmony, but active cooperation. Mere tolerance is not enough. Neither health officials nor practicing physicians can justify an attitude toward each other which is merely indifferent or not antagonistic so long as no active irritation exists. The public is aroused to the need for better health, often it is badly advised, and it has a great tendency to rush into procedures which are unsound and unproductive or, at least, wasteful. It has, of course, no conception of the fundamental necessities of either public health or private medical practice. Therefore, in the interest of the uninformed public for whose service exist the medical profession, and that branch of it devoted to the interests of the public health, practicing physicians and health officials must unite on a program which will assure the harmonious cooperation with all elements in the community working for the betterment of the public health. In this program, as stated before, the physician must have a central place. He must exercise the relationship which he alone is qualified to supply. Without minimizing, in any way, the importance of the health program of engineers, nurses, statisticians, social workers, and laboratory technicians, we must recognize that public health is a specialty of medicine to which all the other professions make valuable, but accessory, contributions. The physician himself, in his own private office, must render the necessary services in preventive medicine. If he does not, the community will.

How this necessity for cooperation can be translated into action remains a problem for every community. Some things can be done by state or county medical societies, as demonstrated by the examples I have given you and others which I might give. I should like in closing to call your attention to the cooperative effort made in Pittsburgh. There are numerous evidences of cooperation between the Allegheny County Medical Society and the public health authorities in that city. One is the active participation by the society in evaluating Pittsburgh's health status for the Inter-Chamber Health Conservation Contest, sponsored by the United States Chamber of Commerce[31]. Another is the report of the active health education program carried out by the allegheny County Medical Society. From this I should like to give you a typical list of community groups which can be reached[32], namely, "the Professional Women's Club, the Sunday School Association of Castle Shannon, the East Liberty Y. M. C. A., the Lions' Club of Wilkinsburg, the Lions' Club of Pittsburgh, representatives of various groups of the Congress of Women's Clubs, the Woman's Auxiliary, the College Club, the Wilkinsburg Presbyterian Church, the Parent-Teachers' Association of Turtle Creek, the Y. W. C. A., the Federation of Pennsylvania Women's Clubs, and many others. During 1935 the Committee on Publicity was able to arrange for speakers at a number of clubs such as, for example, the Congress of Women's Clubs, the Institution for the Prevention of Deafness, the Carnegie Young Women's Club, the Public Health Nurses' Association, the Second Presbyterian Church of Wilkinsburg, the Parent-Teachers' Association."

Also in this connection, the appendicitis campaign by the Pennsylvania State Medical Society, Committee on Appendicitis Mortality, by means of which warning stickers were provided to 320,000 citizens of the state giving them the following warning[33]:

WARNING

"In the presence of abdominal pain, never give a laxative or physic. Give nothing by mouth; call your family doctor. Abdominal pain, cramps, or soreness which lasts four hours is usually seri-

ous. This warning is published by the Medical Society of the State of Pennsylvania."

It should be said in this connection that the Medical Society of the State of Wisconsin together with the State Board of Health and Wisconsin Pharmaceutical Association have followed the lead of Pennsylvania[34]. Finally with reference to Pittsburgh, your attention is called to a community survey made by Ewalt and Hiscock[35]. This survey is particularly interesting because it involves a health council, a device which seems, under many circumstances, a favorable way of procuring community cooperation, not only of the medical society and the health department, but of other community organizations as well. A community health council is a group, usually advisory, on which are represented all the principal agencies in the community which interest themselves in any way in health. Through such a council much can be achieved which would be impossible in any other way. Among the benefits of such a conference we may count that better mutual understanding without which only the form of cooperation is achieved and no real working together or cooperation. That the community health council idea has appealed to medical societies is evident from the fact that in a survey conducted by the Bureau of Health and Public Instruction in 1933, community health councils were found to exist in ninety-six out of 200 medical societies[36] which answered the questionnaire.

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THE HEAD-LOW POSITION IN TONSILLECTOMY

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PUEBLO

There are so many modifications of the "head-low" position, and also a general misunderstanding of the original Rose Position, that the latter is not used here as a title. Furthermore, the Rose Position, being new in this country, is not as descriptive as the term "head-low," which immediately describes the essential feature of the subject.

The true Rose Position is well shown by Bickman[1], who enumerates the four necessary conditions required by Mr. Rose of London: "(a) The patient must be on his back; (b) he must be in a marked Trendelenburg position; (c) his head must extend beyond the end of the table, his shoulders alone resting on the table; and (d) his neck must be markedly and fully extended and held in this position by an adjustable, mechanical head rest, attached to the table.

"As for the surgeon to fulfill his part of the Rose Position technic, he must either sit on an unusually low stool or, to enable him to stand, the operating table must be on an unusually high platform which is generally impracticable. A compromise, therefore, is that the operating table should be placed on a moderately high platform and that the surgeon should sit on a moderately low stool. His eyes should be opposite the patient's open mouth."

Our knowledge and interest in the "head-low" position came through a visit by one of us (C. E. E.) to The Henry Ford Hospital, where he witnessed the modified procedure. The first time we watched this position we were strongly opposed to the radical change, especially to the sitting of the surgeon in such an easy manner. However, on watching more and then trying for ourselves, we quickly became convinced that there was something new in tonsillectomy."

Whitney[2] of the Henry Ford Hospital has described his method and modification with these outstanding advantages: "(a) ease and safety for the beginner, and (b) freedom from complications." He does not use the extreme Trendelenburg position, but tilts the table only moderately. The head is extended over the end of the table, and is supported by the mouth-gag hung on an extension arm commonly used for laryngeal suspension. The operator sits at the head of the patient so that he looks into the open mouth of the patient somewhat below the level of his own. The anesthetist sits at his side and assists with the suction. Ether is mechanically given from a tube attached to the mouth-gag. In a personal communication from the author he said that they have done lipiodol studies and bronchoscopies in a series of cases and have proved the absence of aspirated material. We also have examined the larynx and trachea in over a hundred cases and have found this to be so.

The "head-low" position will satisfy the surgeon that he is working in an efficient way. It demonstrates to the relatives or spectators that the patient is being operated in the most careful manner. But thus far there is not much material in literature or equipment concerning it, and so we are left with a potential advantage in isolating our specialty. We have found that many older men have used the position for certain operations, even for tonsillectomy, and liked it, but the lack of equipment prevented constant use. It is excellent for cleft palate surgery and plastic work, retropharyngeal abscess, radical sinus operations, and extraction of the upper teeth. The desire to adopt it comes from the constant danger of lung abscess and the fear of hemorrhage.

Ziegelman[3] says, "The advantages of this technic are as follows: One has complete direct view of the entire operating area; it is the logical position in which to tie vessels that may be spurting, especially in the lingual region. The position overcomes the gravitation of blood in the pyriform sinuses, pharynx, or larynx, thereby overcoming the so-called aspiration of material with the formation of abscess in the lung."

The "head-low" position in tonsillectomy is further justified by Hara[4] who states the

frequency of tonsillectomy as being one-third of all urban operations. Lung abscess is the one big complication besides hemorrhage. In the series of cases he collected, lung abcess occurred once in 2,678 tonsillectomies. Many men state that they have never had one, which can be explained by the low incidence. But the infrequency does not lessen the seriousness.

Grading below a lung abscess in danger are many cases of pneumonia, bronchitis, colds, coughs, and digestive upsets that are directly due to aspiration and swallowing during the operation and following it. Because of the frequency of these often overlooked complications the "head-low" position in tonsillectomy may become the one of choice.

Hara kept operative data and did bronchoscopic examinations on twenty cases in each of the five positions used in tonsillectomy, moderate extension of the head, extreme extension, Trendelenburg at 20 degrees, Trendelenburg at 45 degrees, and the Rose position. Also ten cases were examined who had been operated in the upright or Boston Position. His results are similar to the findings of all who have examined the bronchi after tonsillectomy.

"1. Bronchoscopic study immediately following operation seems to offer one of the best methods for the estimation of the amount of inspired blood and secretion present after a tonsillectomy operation.

"2. The Rose Position affords the greatest protection against aspiration. The next in order are: the Trendelenburg, the extreme extension, and the moderate extension. The Boston Position gave the largest amount of aspirations."

Ziegelman[3] states that the surgical objectives in tonsillectomy are: "(1) Complete removal of all tonsillar tissue; (2) the least trauma to the tissues; (3) the avoidance of bleeding; (4) the prevention of complications." It seems that the one essential to accomplish these is a good view of the throat. The view must be broad enough to take in surrounding normal structure. It must not tire the surgeon or place him in a strained position. It must be a good view for the anesthetist at the same time, and above all it must be a clear view of the operative area. The result is a confident surgeon, not hurried or worried by the difficulties of the operation.

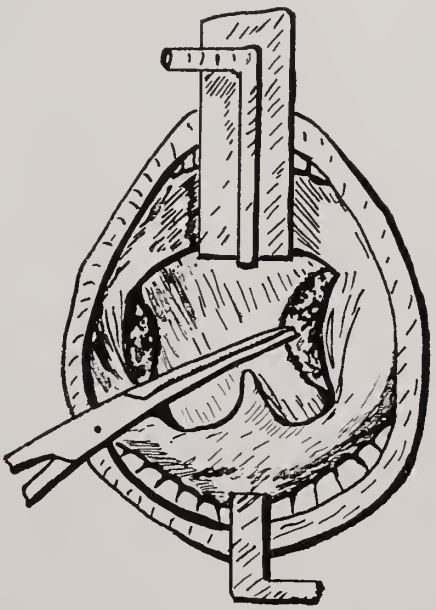


Fig. 1. View of open mouth, inverted, showing right tonsil drawn out of fossa and incision through margin of stretched anterior pillar. The tonsil area, inverted, is visible equally well to surgeon, anesthetist, and spectator and must become familiar.

The view obtained by the "head-low" position fulfills these requirements (Fig. 1). The mouth is held open by a suitable gag that presses against the upper incisors and the base of the tongue, not on the lower teeth. The tongue is elevated (the head being in an inverted position) by the rotation of the gag in one hand of the anesthetist. Ether is administered through a tube attached to the tongue blade over the base of the tongue. The palate and uvula are at the bottom. The anterior pillars are stretched, and the tonsils are exposed. The lower pole, so difficult to see in the horizontal position, is readily seen here. The epiglottis is usually visible. Blood from the tonsil area drains away into the fossa of the palate and into the nasopharynx. Some comes out the nose. Mucus will occasionally be coughed or blown up from the larynx and will always be clear. Vomitus if present will also be free of blood. Pus and secre-

tions are removed by the occasional use of the suction tube in the other hand of the anesthetist, applying it to the nostrils and to the post-nasal space. The latter is easily seen and examined, and adenoidectomy is more perfect. This area is often neglected.

In the description of the true Rose Position at the beginning of this paper, it is evident that some modification is desirable: (a) Some men have tried tilting the table and elevating the shoulders by pillows so that the head rests upon the end of the table. In the absence of an adjustable support this is fairly satisfactory. (b) Most operating tables have an extension that swings down just for the head. When it is used there is often compression at the end of the table from the bending of the neck, and obstruction of the larynx and trachea. When the head is extended fully, the occiput rotates backward below the horizontal level about three inches in an adult. (c) The head may be supported by an assistant as is done in bronchoscopy. (d) However, the most satisfactory support of the head is one that remains parallel to the table in tilting, in which position the head and muscles are at rest, and there is no laryngeal obstruction if the support is so that the neck is straight and in line with the axis of the body (Fig. 2).

The mouth-gag must be rotated toward the anesthetist by one hand so that the tongue blade elevates the tongue. This takes very little pressure, and with his other hand he uses the suction (Fig. 3). He at all times has a good view of the throat. Both the anesthetist and surgeon are seated at

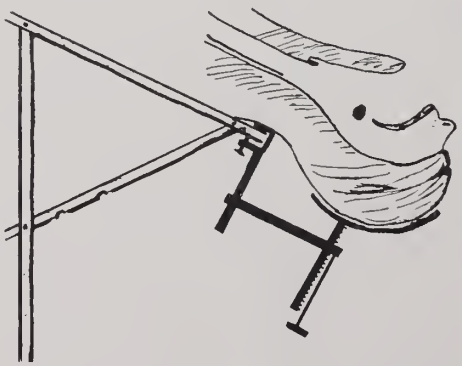


Fig. 2. Diagrammatic view, showing table tilted, head extended, and supported on head rest. Occiput is below the table, and the tonsil area is lower than the larynx.

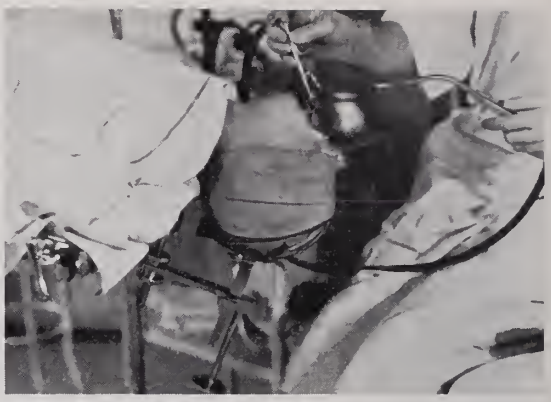


Fig. 3. Head extended on head rest. The mouth-gag is rotated by one hand of the anesthetist. With the other hand he uses the suction.

the head of the patient on rather low stools, the latter a little lower. The patient's face is turned up toward them at about 45 degrees (Fig. 2). The operating table is raised as high as it will normally go, or is placed upon four-inch blocks, and is tilted about 15 or 20 degrees (Fig. 4).

To complete the essentials of this position we have made a head rest (Fig. 5) that will fit any table. It is adjustable by a vertical worm screw and handle below, may be extended from the table for adults, and also moves laterally, following any movement the patient may make. Being adjustable, therefore, in three directions it is quite safe, and is suitable also for bronchoscopic examinations (Fig. 5). It is steadier than an assistant, never gets tired, and is always present.



Fig. 4. General view of operating table, and the seating of the surgeon. The table should be tilted more than appears here. The knees must be well strapped to prevent slipping. Illumination is by a head-mirror.



Fig. 5. Bronchoscopic examination easily accomplished with the head extended and supported by the head rest.

A Crowe-Davis mouth-gag is used (Fig. 3). This has several tongue blades of different length, each of which carries an ether tube over the base of the tongue. Pressure from the gag is upon the upper incisors and the base of the tongue.

Other instruments are those ordinarily used in dissection and snare, the Sluder, Baum, La Force, etc. They are somewhat difficult to use, but not impossible. Dissection has certain other advantages also. If the first incision is properly made through to the capsule, it almost guarantees that the tonsil will come out clean. In the dissection we free one tonsil, except the pedicle, and then replace it in the fossa so that it acts as a sponge, while the other tonsil is dissected likewise, and the adenoids are removed. Then the first tonsil is removed by snare, preferably one with a Veeder loop. This holds back the pillars and permits traction on the tonsil, by which the lower pole is drawn into the snare. With the delay in removal the fossa rarely bleeds, and after it is dry the second tonsil is removed. We purposely avoid traumatizing the pillars and fossa if possible. It may be necessary to insert a large hard sponge with pressure for a few minutes. The sponge is not changed, but used again if necessary, as we think that a bloody sponge acts better in hemostasis than a clean dry one. Rarely does one have to clamp a vessel if he remains calm, knowing that his patient is fully protected from aspiration and swallowing blood. When the thoat is satisfactory and dry the gag is removed and the table elevated to horizontal. The patient is immediately placed on the carriage, turned on his side, and a wooden tongue blade placed between the teeth so that the secretions will drain out of the mouth. He is returned to bed and kept in the same position until fully awake. Much of the nausea and vomiting of blood is caused by swallowing after the operation is completed.

Summary

1. Since the purpose of this paper is to demonstrate how the "head-low" position in tonsillectomy protects the patient from serious and minor complications, it is in order to draw attention to the comfort and security that the surgeon feels.

2. Furthermore being, we think, a superior position, we have added suggestions in technic to carry out the advantages of the low head in tonsillectomy.

3. A new head rest is here shown that has proved very satisfactory in tonsillectomy, in numerous throat and sinus operations, and especially in bronchoscopy and esophagoscopy.

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Medical Organization

Dr. J. N. Hall's Fiftieth Meeting

THE annual banquet of The Colorado State Medical Society September 12 at Glenwood Springs was appropriately dedicated to Josiah Newhall Hall, who was attending the Annual Session of the Society for the fiftieth time. It would be interesting to know if there is another physician in the United States who has attended fifty annual meetings of his state medical society —we have not heard of any.

We present here Dr. Hall's reply, which he read when introduced at the banquet:

"When I attended my first meeting of this Society, in 1883, the tubercle bacillus had just been discovered, the living appendix had never been removed; tubal pregnancy caused thousands of deaths annually because of our ignorance of its existence; pus tubes were treated as pelvic peritonitis and cellulitis, with no suspicion of their causation. Modern surgery was just getting its eyes open. I knew the first woman to be deliberately operated for chronic appendicitis, with recovery, (Grant's patient) and the first one to have her gallstones clinically recognized (by Bobbs), with operation and recovery.

"Eighty-five per cent of the Doctors then were 'two-year men.' They had studied under a preceptor and then taken two identical courses of lectures of four or five months each, with practically no laboratory instruction and generally no hospital experience.

"The Union Pacific Railroad had just built the Julesburg Shortline. My nearest medical neighbor westward was at Evans, Colorado, 100 miles away, while the nearest one eastward was at North Platte, 140 miles. In winter floods we took our chances with ice and quicksand.

"Excepting for the railroad, my travel at first was entirely by horseback. I have been six months without even seeing another doctor. My undisputed territory covered eight thousand square miles (more than the area of Massachusetts), now seven prosperous counties. There was no hospital, and no trained nurse, in all this area. There were no game laws, and game furnished much of our food. In our first winter of housekeeping, Mrs. Hall and I ate buffalo meat every day for three months. Elk and antelope were cheaper than beef.

"After three years, a new doctor settled in the valley, only fifty miles away—one of your most honored members and one of my oldest friends, Dr. Hubert Work, then of Fort Morgan. From such crude and humble beginnings he rose to the presidency of the American Medical Association, and to high places in the councils of the nation.

"After all these experiences, a doctor in a small Colorado town, who had automobiles, electric lights, radio, and cement roads, recently said to me—'Why, Dr. Hall, you consultants from Denver don't know anything about the trials we doctors in small towns have to undergo.'

"I have known all of the sixty-five presidents of this Society, excepting Drs. Thacker and McMurtrie. For over fifty-three years I have seen the long procession of some nine thousand doctors come to Colorado for registration, generally in hope and confidence. For every one that remains, about five have died or moved on. The registration list of the State Board of Medical Examiners contains the names of only three or four of my earliest associates, and they are generally out of practice.

"My closest friends have all been physicians, and I thank God for a long lifetime of association with men belonging to, as I believe, the noblest of professions.

"Members of the Society, I thank you, and I salute you."

The Swimming Party And Bathing Beauties!

AS noted editorially in this issue, space and time elements prevented inclusion of full detailed transactions of the Glenwood Springs Annual Session.

But we could not resist publishing something special about the swimming party and its "bathing beauties." To many this was the highlight of the whole meeting; certainly it was the high point in entertainment, and not the least factor in its success was its spontaneity. Those who could not swim, or would rather not, lined the pool to make up an audience of 150 or more; those who could, swam; those who dared, joined the bathing beauty parade.

Led by Drs. George Unfug, Paul Connor, et al, close to a dozen otherwise staid physicians donned grease paint, rouge, powder, and assorted feminine bathing suits of the vintage of 1890 which had been unearthed from the archives of the Hotel Colorado, and paraded. Dr. Bernard Yegge was judged the "most beautiful" by Judges A. J. Markley, G. P. Lingenfelter, and W. W. King. Reputedly the prize was to be an empty bottle for delivery on the morning after; actually the defeated "beauties" threw the winner bodily, 1890 skirts and all, into the deep end of the pool!

Pictures on the following page cannot convey the hilarity, but need little identification. A few



readers might otherwise fail to identify Dr. J. H. J. Upham, President-elect of the A.M.A., Dr. Hubert Work, and Mrs. C. A. Bundsen "arguing" over the parade winners. All will recognize Dr. J. N. Hall in the center. He not only swam to celebrate his fiftieth Annual Session, but used the diving boards and chutes. President T. E. Beyer of the Denver Society is either teaching feminine companions to swim, or learning from them; we don't know which. It was a grand party!

MEDICAL SOCIETIES

DELTA COUNTY

Dr. J. C. Pounden of Cedaredge was the principal speaker before the first fall meeting of the Delta County Medical Society, held in Dr. Cleland's office August 28 at Delta. Dr. Pounden discussed Health Insurance in England.

E. R. PHILLIPS,
Secretary.

* * *

MESA COUNTY

The regular meeting of the Mesa County Medical Society was held September 15 at the La Courte Hotel, Grand Junction, preceded by a dinner. Dr. R. J. Groom of Grand Junction, formerly of Denver and Honolulu, read the paper of the evening on "Diarrhea in Infants." A case of recurrent abscess formation due to staphylococcus aureus was reported. Dr. Groom and Dr. E. A. Jaros, also of Grand Junction, were elected to membership in the Society.

FRANK J. McDONOUGH,
Secretary.

* * *

NORTHEAST COLORADO

Dr. Vera H. Jones of the State Department of Health presented the state public health program for crippled children at a special meeting of the Society held September 4 at Sterling. A motion picture, "The After Care of Poliomyelitis," also was shown. Members of the Society and their guest speaker were entertained at a squab dinner at the home of Dr. E. B. Hummel. A project was launched for holding an all-day clinic for crippled children, to be sponsored by the state department of health, on October 8, the date of the next regular meeting of the Society.

* * *

PUEBLO COUNTY

The Pueblo County Medical Society opened its autumn season September 1 with a meeting at the Vail Hotel, Pueblo. Papers were given by Dr. George E. Rice on "Surgical Diagnosis" and Dr. J. L. Rosenbloom on "Psychiatric Diagnosis." On September 15 the second regular meeting for the month was held. Officers and delegates reported to the Society upon the transactions and entertainments at the Sept. 9-12 meeting of the State Society at Glenwood Springs, and Dr. B. E. Konwaler delivered a paper on "Non-tuberculous Diseases of the Lungs; Excluding Pneumonia."

J. W. WHITE,
Secretary.

WOMAN'S AUXILIARY

WOMAN'S AUXILIARY ANNUAL MEETING

The annual meeting of the Woman's Auxiliary which was held at Glenwood Springs was a very interesting and enjoyable one.

At the business meeting on Friday, September 11, every county was represented and reported interest and growth in the work. All the committee chairmen reported also, and showed that they were functioning successfully. Some increase in membership was reported. From several counties there were overtures for organization where they were not already organized. Organization is to be the keynote of the National Auxiliary and it is hoped that it will be so in the state. One of the most outstanding reports of a committee was that of the Benevolent Fund. The card parties sponsored by Mrs. T. Mitchell Burns for Denver County met the sum of $174.55. The fund has doubled in the past year and now has $1106.15 in it.

On Wednesday night our hostesses arranged a card party which was largely attended and much enjoyed. At the luncheon on Friday Mrs. John H. J. Upham, of Columbus, Ohio, wife of the president-elect of the American Medical Association, was the honored guest. At the joint meeting Friday night with the medical society, Dr. Upham gave the address, and in it gave the Auxiliary great praise for the work it is doing, and also gave some very wholesome advice, which was most appropriate for the younger doctors' wives. As far as the entertainment was concerned, the swimming party Friday was the climax of fun and enjoyment. The bathing beauty parade certainly was the last word in such parades, since it was composed only of the medical members. The pool was much enjoyed and when the most emeritus doctors thrilled us with their diving and antics one wondered if they had found the elixir of life!

At the close of the auxiliary meeting, Friday, the following officers were elected:

President—Mrs. John A. McCaw, Denver.
President-elect—Mrs. Virgil Sells, Denver.
First Vice President—Mrs. C. W. Streamer, Pueblo County.
Second Vice President—Mrs. E. W. Knowles, Weld County.
Third Vice President—Mrs. A. L. Burnett, San Juan County.
Fourth Vice President—Mrs. H. B. Catron, Arapahoe County.
Recording Secretary—Mrs. John B. Ambler, Denver.
Corresponding Secretary—Mrs. Byron I. Dumm, Denver.
Treasurer—Mrs. H. B. Stein, Denver.
Auditor—Mrs. W. E. Sunderland, Denver.
Parliamentarian—Mrs. C. F. Morrison, Colorado Springs.

The list of state committee chairmen is incomplete as yet, but the following have been appointed by the new president:

Organization—Mrs. G. P. Lingenfelter, Denver.
Benevolent Fund—Mrs. Lorenz Frank, Denver.
Publicity—Mrs. Arnold Minnig, Denver.
Health Education—Mrs. E. H. Peterson, Grand Junction.
Legislation—Mrs. John Andrew, Longmont.
Year Book—Mrs. George Miel, Denver.

MRS. ARNOLD MINNIG,
Publicity Chairman.

DENVER COUNTY

Mrs. John A. McCaw and the Board of the Woman's Auxiliary to the Denver County Medical Society were hostesses to the members of the Auxiliary at tea on Monday, September 21, 1936, at the home of Mrs. McCaw. Arrangements were under the direction of the Hostess Committee, Mrs. Ward Burdick, chairman. The other members of the Board acted as assisting hostesses.

FOUNDATION GIFT

Dr. Ella Mead of Greeley, Colo., has given $1,000.00 to the Foundation Fund of the Colorado State Medical Society. The interest of this bond to go to Dr. Mead during her lifetime. This is the first sizable sum to be given this foundation. As an auxiliary we feel pleased that such a gift should come from a woman and to the Foundation in which we through our Physicians' Benevolent Fund, are so vitally interested. May not this encourage some of the Auxiliary members to make a like investment through the Foundation.

Obituary

Duane Turner

Duane Turner, Secretary of the Northwestern Colorado Medical Society, died at the Steamboat Springs Hospital September 2, 1936, from pneumonia, following an illness of one week.

Dr. Turner was born July 30, 1902, in Columbia, Mo. He began the study of medicine at the University of Missouri, but finished his course at the University of Colorado School of Medicine and Hospitals, where he was graduated in 1928. Soon after completing an internship at the Colorado General Hospital he moved to Oak Creek, Colo., as physician for the Victor American Fuel Company, and after two years there he established himself in private practice in Steamboat Springs, Colo. For the last six years he had been Secretary of the Northwestern Colorado Medical Society, and had taken a leading part in the affairs of organized medicine in a district of large area and sparse population. He also became a leader in civic and public health affairs, serving on the Steamboat Springs town board, as county physician, chairman of the county relief committee, and in other civic positions.

Dr. Turner is survived by his widow, the former Miss Ruth Brown of Columbia, Mo.; three young children, his parents, two sisters, and three brothers. With them, the Colorado State Medical Society shares a deep loss.

Byron Charles Leavitt

Byron Charles Leavitt, formerly of Denver, died at his home in Duxbury, Mass., August 18, 1936, of a sudden heart failure following by several weeks a cerebral thrombosis. Dr. Leavitt had been an active member of the Medical Society of the City and County of Denver continuously from 1889 until 1933, in which year the Society elected him to honorary membership.

Dr. Leavitt was born in Millbrook, Mass., in 1858, and was graduated by Harvard University as a Doctor of Medicine in 1887. The following year he moved to Denver and obtained his Colorado license. In his earlier and more active years Dr. Leavitt was an enthusiastic worker in the affairs of organized medicine as a contemporary of the pioneer physicians of Colorado who laid the foundations of modern medical organizations, and at the same time maintained a busy practice.

Ethylene is safest of the anesthetics in present use and should be the standard. The limited use of ethylene is probably due to inertia and unwarranted fear.—New York State Journal of Medicine.

There is relatively little difference in the mechanism of the respiratory reflexes of coughing and sneezing. Sneezing taking the place of coughing in pertussis is so characteristic that the diagnosis may be made instantly.—The Journal of Pediatrics.

Intraperitoneal injection in prematures is to be condemned, as is the pernicious habit of injecting all new-borns intramuscularly with whole blood—forsooth to prevent brain

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Circumcision is a plastic procedure, and the bizarre results often seen would indicate that many of the methods used lack most, if not all, of the essentials of good surgery.—Journal of Pediatrics.

The removal of foci in patients whose arthritis is many months or years old is rarely if ever followed by improvement in joints.—Annals of Internal Medicine.

The application of continuous mild suction to an indwelling tube in the stomach or duodenum can drain the intestinal tract as far as the ileo-cecal valve.—British Medical Journal.

An unusually high total leucocyte count early after occlusion is thought to be of serious significance.—The American Heart Journal.

Essential hypertension often exhibits an early variable stage, responding readily to simple medical measures, difficult to distinguish from vasomotor instability and simple emotional or functional disorders.—N. E. Journal of Medicine.

Wyoming Section

OCTOBER
1936

Editorial

Our President

It is now President Josef F. Replogle. He was born near Decatur, Illinois, April 8, 1879. He was graduated from University of Illinois Medical School at Chicago in 1904. An internship of eighteen months at



JOSEF F. REPLOGLE
President, The Wyoming State Medical Society

Brainard Polytechnic gave him his hospital training. Private practice was entered and continued for two years in Chicago, after which he moved to Wyoming in 1910 because of the ill health of his eldest son. Since that time he has been practicing general medicine in Fremont County.

Responding to the need of physicians at the great San Francisco earthquake, President Replogle joined the Chicago Relief train. On this train he met Miss Emma Rebecca Maxwell, a graduate nurse and registered pharmacist. Together they worked and on May 8, 1906, they joined forces for life. Two sons and one daughter have made their home life ideal. Their eldest son, Josef F., Jr., aged 28. was graduated at Annapolis and is a commissioned naval officer, who also took a degree in Arts at Yale in 1932 and served in the U. S. navy in China during 1933 and as assistant to Sumner Welles, Ambassador to Cuba, during the revolution there. Son John Maxwell is sixteen and daughter Marian is fourteen.

Dr. Replogle has been honored by being elected mayor of Lander and three times has served as representative in the Wyoming State Legislature. During the last session he was a member of the Ways and Means Committee. His services in the legislature have also been outstanding on matters of public health.

During the World War Dr. Replogle was a member of the Medical Advisory Board of the State of Wyoming, also of the Local Draft Board. He served as President of the Fremont Medical Society for ten years and at the same time was acting as Chief of Staff of the Bishop-Randall Hospital in Lander; was founder of the Lander Hospital in Lander, Wyoming. He has been president of the Lander School Board for three years, which Board now has under construction a new $118,000 school building. In 1934 he received, at Boston, Mass., his F.A.C.S. degree.

Besides all the above duties, Dr. Replogle has been a constant member since the reorganization of the Wyoming State Medical Society, attending most of the meetings and always doing his best for scientific medicine. Chosen President-elect last year, he was installed as President by the retiring Presi-

dent, J. L. Wicks, at the Cody meeting, August 25, 1936.

The members of the Wyoming Society look forward to the next year with confidence under the leadership of the man whose likeness accompanies this brief sketch and they pledge him their finest cooperation.

E. W.

Our New Secretary

The House of Delegates, at the Cody Session, elected Dr. Marshall Clark Keith of Casper as Secretary.

Dr. Keith was born in 1874. He was graduated from Rush Medical College in 1896. He was licensed in 1906 and has been one of the leading physicians in Casper for years. Mature in medical knowledge, he brings to the office of Secretary and pleasing and lovable personality, a keen literary mind and years of medical experience.

Every member in our Society should do all that he can to aid the new Secretary to build a better and more scientific society. Presidents come and go, but the Secretary is the man on whom falls most of the burden of a smooth running association.

At all times the retiring secretary will do all he can to assist Dr. Keith.

E. W.

The Thirty-third Meeting

Cody, Wyoming, was the meeting place of the Doctors of Wyoming and their guests on August 23, 24, and 25, the Northwestern Wyoming Medical Society acting as host.

Before Sunday evening there arrived from all over the state of Wyoming members of the medical profession and their wives. Joining them also were outstanding members and their wives of the Colorado, Utah, Idaho and Montana Societies. The President-elect of the American Medical Association, Dr. J. H. J. Upham, together with Mrs. Upham and several distinguished guest speakers, Dr. C. F. Dixon and Dr. William F. Braasch of the Mayo Clinic, Chief Surgeon John R. Nilsson of the Union Pacific at Omaha, Drs. Harry H. Wear and Thomas D. Cunningham of Denver, were in attendance. Colorado was also ably represented by the Fraternal Delegate, Dr. George Lingenfelter, and the Executive Secretary, Harvey T. Sethman.

Space forbids recounting the particulars of the scientific program. However, in the issues of Colorado Medicine throughout the year many of the splendid papers and addresses will be published and those who were so fortunate as to be present will read these with pleasant memories of the meeting. The helpful discussions can not be reproduced because of the absence of a talented stenographer. For those who did not attend, and for the Colorado readers, they would be interesting and helpful.

Outstanding was the address of President-Elect J. H. J. Upham on "Heart Disease in Middle and Past Middle Life." The perfect attention given the speaker showed how greatly the audience appreciated his words. How can anyone measure the good which will follow in the years to come—not only to the physicians who heard the address, but to their patients? We know that address was worth all it cost any doctor to make the trip to Cody, and the Wyoming State Medical Society feels deeply indebted to the American Medical Association and to Dr. Upham for his presence and his two splendid talks.

The Northwestern Wyoming Medical Society certainly did all that could be done for the comfort and entertainment of the delegates, guests and their wives. The smoker was a western type of mixer—yes, mixer is the correct word. Anything one wanted could be had, and yet there was no headache the morning after.

Monday a luncheon for the ladies, which they reported was fine, was given at the Green Lantern Inn. The drive up the river and around the Shoshoni Dam was a thrill to those who had never been over this road. At the banquet Monday evening in the Burlington Inn everything went off with

clock-like precision. The speeches were good, witty, and entertaining. The food was well served and satisfying. Dr. Trueblood, President of the local society, and Dr. G. M. Anderson, Secretary of the State Board of Health, acted as joint toastmasters. The members and their ladies were so pleased and entertained that they failed to arrive at Wolfville, where a dance orchestra finally gave up in despair and went home. However, another place of entertainment was found and the dance was held. No one knows for how long, but some folks were sleepy the next day!

At noon Tuesday the doctors and their wives were given what was called a lunch at the Methodist Church. The truth is, it was a big dinner: fried chicken, home-made biscuits, and the finest sweetcorn on the cob. Say, didn't those Rochester, Minn., boys put that corn away? The red headed chap piled up a mountain of corn cobs that would have made a corn-fed Nebraska girl green with envy, and his "side kick," the noted Dr. Braasch, was only one or two cobs behind him. Then came apple pie like mother used to make, and really, it isn't any wonder that the scientific meeting was a little late in starting after such a "lunch."

Elsewhere in our section will be found the minutes of the House of Delegates meeting. We recommend that every member most carefully read them. The House elected Dr. J. R. A. Whitlock as President-elect; Dr. W. Andrew Bunten, Vice President; Dr. Marshall C. Keith, Secretary; Dr. F. L. Beck, Treasurer; Dr. W. A. Steffen, Councilor for three-year term; and the Medical Defense Committee, Dr. J. L. Wicks, Chairman, Dr. F. A. Mills, Dr. M. L. Keith, Secretary. Dr. J. F. Replogle, President-elect of 1935, was installed as President.

Thus the convention closed, one of the finest scientific meetings ever held by the Wyoming State Medical Society, and another milestone was reached.

E. W.

WYOMING STATE MEDICAL SOCIETY

MINUTES OF THE HOUSE OF DELEGATES
Thirty-Third Annual Meeting

Cody, Wyoming, August 24, 1936

At 2:00 p. m. President J. L. Wicks called the House of Delegates to order. The Secretary announced a quorum present. The President announced the appointment of the following committees:

Resolutions—Dr. L. G. Booth, Chairman; Dr. C. W. Jeffrey, Dr. George H. Phelps.

Necrology—Dr. F. L. Beck, Chairman; Dr. Herbert L. Harvey, Dr. J. H. Goodnough.

Time and Place—Dr. P. M. Schunk, Dr. E. L. Sederlin, Dr. Joseph Bunten.

Dr. George P. Lingenfelter, fraternal delegate from The Colorado State Medical Society, was introduced and extended the greeting of the members of that Society. He has honored our Society in past years by his presence and helpful advice. He presented, on behalf of the members and officers of that Society, an official invitation for the Wyoming State Medical Society to join in the formation and conduct of the Rocky Mountain Medical Conference. He explained that this Conference would include such states in the Rocky Mountain region as New Mexico, Colorado, Utah, Wyoming, Idaho and Montana provided the Medical Societies in these states voted to join in the promotion of this Conference. Dr. Lingenfelter suggested that a special committee, given full power to act in all matters, be appointed by each state society. The Colorado Society offered to act as host for the first meeting which will be held in 1937; the joint Committee to arrange the time, place and make all arrangements for the program and future meetings and programs as it might see fit. Further meetings will be held in the other states as agreed by this joint committee. Harvey T. Sethman, Executive Secretary of the Colorado Society, was introduced and continued the discussion of the plans and cited the great advantages of such interstate meetings in the interest of scientific medicine. President Wicks thanked the gentlemen from Colorado for their invitation and presence at our meeting and said he would bring the invitation to the House of Delegates for its action.

Upon motion the House therepon adjourned until 3:00 p. m. August 25, 1936.

EARL WHEDON,
Secretary.

Cody, Wyoming, August 25, 1936, 3 P. M.

President J. L. Wicks called the House of Delegates to order at the above time and place. Roll Call showed the following members of the House Present:

Albany County ---- E. L. Sederlin
Carbon County ---- C. W. Jeffrey, C. L. Wills
Fremont County ---- L. H. Wilmoth
Goshen County ---- No one present
Hot Springs County ---- C. Dana Carter
Laramie County ---- W. Andrew Bunten, Joseph Bunten, George H. Phelps, F. L. Beck, George P. Johnston.
Natrona County ---- George R. James, George C. Smith, Herbert L. Harvey.
Northwestern Wyoming ---- F. M. Lane, V. R. Dacken, Evald Olson, J. D. Lewellen, F. A. Mills, J. R. A. Whitlock.
Sheridan County ---- W. A. Steffen, P. M. Schunk, Earl Whedon
Sweetwater County ---- No one present
Uinta County ---- J. F. Whalen, J. L. Wicks
Councilor ---- F. C. Shaffer

—Thus making a total of twenty-four members present.

The Secretary read the minutes of the Lander, Wyo., meeting of August 11, 12, 1935, which minutes were, upon motion, approved as read.

The President thereupon announced the next order of business to be the election of officers.

Dr. Mills nominated Dr. J. R. A. Whitlock of Powell for President-Elect. This nomination was seconded by Drs. Lewellen and Johnston. Dr. Johnston moved that the rules be suspended and that the Secretary cast the unanimous vott of the House for Dr. J. R. A. Bhitlock as President-Elect. This motion was seconded, passed and carried, and the Secretary thereupon cast the vote of the House for Dr. Whitlock and President Wicks declared him elected.

Dr. W. Andrew Bunten of Cheyenne was elected Vice President, Dr. M. L. Keith Secretary, Dr. F. L. Beck, Treasurer, Dr. W. A. Steffen, Councilor for three-year term. The Medical Defense Committee elected: Dr. J. L. Wicks, Chairman; Dr. F. A. Mills, Dr. M. L. Keith, Secretary.

President J. L. Wicks then called Dr. J. F. Replogle, who was elected President-Elect at the Lander meeting, and introduced him as the new President. Dr. Wicks thanked the members of the Society for the honors they had conferred on him and for the cooperation he had received. The new President pledged his best endeavors to the Society and asked for the whole-hearted assistance of the members.

Dr. Johnston, Chairman of the Council, read the Editor's Report, which is as follows:

Editor's Report

Cody, Wyoming, August 25, 1936.

To the Council of the Wyoming State Medical Society:

It is a pleasure to report, as Editor of the Wyoming Section of Colorado Medicine, the year's activities. A careful review of the issues beginning with the September, 1935, issue, and including the August, 1936, number, reveals the following facts:

There were written and published twenty-eight editorials. The subjects selected had, in a large part, to do with Wyoming conditions and policies. The Presidential Address of Dr. H. L. Harvey delivered at the Lander meeting and one paper written by our worthy President, Dr. J. L. Wicks, were published. Deaths called for four articles. The list of members was published in the December, 1935, number. A total of eight scientific papers appeared throughout the year and were of high quality and greatly appreciated. This was the finest feature of the year and certainly of great value to the medical profession.

News Notes were not what they should have been. Whose fault is it that we do not have more? Other years I have asked for some one to be appointed in the local societies to send these in, but without results. Most regrettable of all is the failure, which is too common, of not notifying the Editor when some member of the profession is sick or injured. When a fellow is down and out he certainly needs a friend and if this next year some arrangements could be made for a better news-gathering agency in each society our Journal would be more interesting.

Can you imagine tender feelings being more severely injured, than to have one of our members pass on, no flowers being sent by our Society to the funeral of our member? This little act of kindness extended to the widow and children in their time of grief is perhaps all we cant do, but because the Editor did not know and no one in his society took the trouble to let the Editor know—no flowers were sent. Two cases of this nature occurred this year. We feel most keenly this oversight.

A total of fifty-seven pages were printed this year covering the above, and all members received, free of charge, the valuable Journal, Colorado Medicine. If any member did not receive his copy each month he has only himself to blame because the manager of Colorado Medicine has been most careful to keep the list complete at all times. Our relations with the Scientific Editor of the Colorado Journal, Dr. Douglas W. Macomber, and the able Secretary and General Manager, Harvey T. Sethman, have been most pleasant and I owe them much for the help they have given to a man who is not a polished writer.

Respectfully submitted,
DR. EARL WHEDON,
Editor.

Dr. Johnston also read the report covering the auditing of the books of the Secretary and Treasurer as follows:

We hereby certify that we have examined the books of the Secretary, Earl Whedon, and the Treasurer, F. L. Beck, and find them to be correct in every respect as recorded. They have been approved accordingly.

Cody, Wyoming, August 24, 1936.

GEORGE P. JOHNSTON,
F. C. SHAFFER.

These reports, upon motion, were accepted by the House of Delegates.

Dr. George P. Johnston, as Chairman of the Council, reported the various meetings the Council had held with the Carbon County Society. He recalled the efforts made by the Council to secure harmony with the affairs of that County Society and the unanimous opinion of the Council from the order of expulsion passed by the Carbon in sustaining the appeal of Dr. M. L. Crandall County Society. Dr. Johnston reported the order of the Council commanding the Carbon County Society to accept the dues of Dr. M. L. Crandall and to restore him to full membership; the refusal of the Carbon County Society to comply with the order of the Council, and that it was with sorrow that the Council was compelled to recommend to the House of Delegates the revoking of the Charter of the Carbon County Society as provided by Chapter nine, Section three, of the By-Laws of the Wyoming State Medical Society.

Dr. Beck moved that a vote of thanks be extended to the members of the Council for their efforts; which motion was seconded and carried.

Dr. Wilmoth moved that the Charter of the Carbon County Society be revoked as provided by Chapter nine, Section three, of the By-Laws. This motion was duly seconded and upon the ballot being cast the motion carried by a vote of fifteen for, and nine against. President Replogle thereupon declared the charter of the Carbon County Medical Society revoked.

Dr. Whedon moved that the House of Delegates accept the invitation of the Colorado State Medical Society to form a Rocky Mountain Medical Conference and that the President be empowered to appoint a Committee of five members, with terms of office from five to one year; this committee to have full power to act on any and all questions concerning the conduct of said Medical Conference. This motion was seconded by several

delegates and, after a free discussion, was carried without a dissenting vote. President Replogle thereupon appointed the committee as follows:

Earl Whedon, Chairman	five-year term
George P. Johnston	four-year term
W. A. Steffen	three-year term
F. A. Mills	two-year term
Herbert L. Harvey	one-year term

Dr. P. M. Schunk, chairman of the Committee on time and place of the 1937 annual meeting, reported that inasmuch as the President had appointed a special committee with full power to act, there was no need of any action on the part of his committee. President Replogle thanked the committee.

The Resolutions Committee reported, through its Chairman, Dr. L. G. Booth, as follows:

Report of the Resolutions Committee

We, the Committee on Resolutions, do hereby resolve that the Wyoming State Medical Society thank the Northwestern Wyoming Medical Society for their hospitality as host for the Thirty-third Annual Meeting of our State Society, and the fine manner in which it is being held;

Also be it resolved that the State Society extend their greetings and thanks to the Cody Club for the excellent luncheon at the Irma Hotel;

Further be it Resolved that we express our gratitude to the ladies of the Northwestern Wyoming Medical Society for the gracious manner in which they have entertained the visiting ladies and the Auxiliary of the Wyoming State Medical Society;

And we further express our indebtedness to all men presenting papers on our program, more especially those out-of-state guest speakers, our President-elect of the American Medical Association, Dr. J. H. J. Upham; Drs. C. F. Dixon and William F. Braasch of Rochester, Minn.; Dr. John R. Nilsson of Omaha, Drs. Thomas D. Cunningham and Harry H. Wear of Denver, Colorado.

Signed L. G. BOOTH,
C. W. JEFFREY,
GEORGE H. PHELPS.

These resolutions were adopted by the House and the Secretary was instructed to enter them in the minutes and transmit a copy to parties concerned.

Dr. Herbert L. Harvey, Chairman of the Committee on Necrology, reported as follows:

Whereas, The Wyoming State Medical Society records the passing during the last year of Dr. Homer R. Lathrop of Casper, Dr. Clyde Y. Beard of Cheyenne, and Dr. E. W. Croft of Lovell, all of whom had been long engaged in the practice of medicine in Wyoming, and long time members of this Society, therefore,

Be It Resolved: That the Society express its sympathy to the families of these devoted members of our profession;

That a copy of these resolutions be sent to the family of each, and

That they be recorded in the minutes of the Thirty-third session of the Wyoming State Medical Society.

HERBERT L. HARVEY,
F. L. BECK.

This report was adopted by the House of Delegates.

It was moved and seconded that a warrant be drawn by the Secretary on the Treasurer for two hundred dollars, of funds in the General Fund, to the Northwestern Wyoming Medical Society to help said society to meet the expenses of entertainment of the Thirty-third Annual Meeting of this Society.

Dr. Smith moved and it was seconded that there be no scientific meeting of the Wyoming State Medical Society during the year 1937 in Wyoming. Motion carried.

Upon motion made, seconded and carried the Secretary was instructed to pay the hotel bills of all guest speakers from out of the state while attending this meeting.

The President was by motion empowered to appoint a special committee to act for Wyoming with the American Society for the Control of Cancer.

Dr. F. L. Beck read the Treasurer's report as follows:

Balance from General fund of 1934-5	$ 37.77	
Transfer from Medical Defense Fund, as ordered by House of Delegates	1,264.88	
General Fund total received from Dr. Olson		$ 1,302.65
Received from Secretary, 1934-1935 dues	160.00	
Received from Secretary, 1936 dues	982.50	
		$ 1,142.50
Total General Fund to Date		$ 2,445.15
Received Interest on U. S. Bonds, Defense Fund		348.75
Total to account for		$ 2,793.90
Paid on Orders, General Fund		1,004.60
Balance on Deposit in American National Bank		$ 1,789.30
Out of these funds a Savings Account drawing 3 per cent compounded interest has been started, first principal		1,000.00
Balance in checking account		789.30
		$ 1,789.30
The Society owns U. S. Bonds to the amount of		$10,000.00
Savings Account, American National Bank		1,000.00
Checking Account, American National Bank		789.30
		$11,789.30

RECAPITULATION OF CASH ACCOUNT

General Fund Balance at beginning of year		$ 1,320.65
General Fund Receipts		1,142.50
General Fund Total		$ 2,445.15
General Fund Expenditures		1,004.60
General Fund Balance, this date		$ 1,440.55
Medical Defense Fund, Balance at beginning	----	
Medical Defense Fund receipts	$ 348.75	
Medical Defense Fund Expenditures	----	
	$ 348.75	
Medical Defense Fund, Balance this date		$ 348.75
Total cash on hand		$ 1,789.30

This report was referred to the Council.

Secretary Whedon's Report was read, as follows, and referred to the Council and House of Delegates:

Cody, Wyoming, August 25, 1936.

Following the close of the Lander meeting, August 12. 13, 1935, your Secretary notified all officers of their election and carried out all instructions of the House of Delegates.

Since the Lander meeting the following payments for dues have been made to the Secretary and remitted to our Treasurer, Dr. F. L. Beck:

For the year 1934, 1 member	$ 10.00
For the year 1935, 15 members	150.00
For the year 1936, 131 members	982.50
	$1,142.50

Last year up to the time of the Lander meeting 124 members had paid their 1935 dues. From the above report it does not seem that the reduction of $2.50 per year by the House of Delegates has given us any increase in membership as the total collected on 1935 membership is now 139 with dues at $10.00 per member against 131 for 1936 at $7.50 per member.

Expenses have been paid out as follows:

Order No.		
220	8/22/35 Colorado Medicine, 1935, for 27 members	$ 67.50
221	9/ 3/35 Treasurer's Bond	37.50
222	9/ 6/35 Fremont Co. Med. Soc. Committee	200.00
223	10/ 1/35 American Nat. Bk.-Treas.	3.00
224	10/ 1/35 Quick Printing Co. Officers' Stationery	41.31
225	10/15/35 Dr. E. Olson, Treasurer's Expense	4.10
226	12/ 4/35 St. Louis Button Co., Lander Badges	16.05
227	1/ 6/36 Flowers for Dr. Lathrop	10.20
228	1/10/36 Bentley & Zullig, Secretary's Bond	5.00
229	2/ 7/36 Secretary's Expense, Postage, Wires, etc.	42.75
230	7/24/36 Colorado Medicine, 104 Subscriptions	260.00
231	7/31/36 Houx Printing Co., 1936 Programs	12.75
232	8/ 9/36 Colorado Medicine, 34 Subscriptions	85.00
233	8/18/36 Earl Whedon, Stenographer and postage	219.44
234	8/21/36—St. Louis Button Co., Cody Badges	13.27
	Total Receipts $1,142.50	
	Total Expenditures	$1,017.87
	Total or net profit on receipts	$ 124.37

The above does not take into consideration any profits received as interest from the Government Bonds held by the Society or an interest on deposits, but simply shows the cash received for dues and the warrants drawn on the Treasurer during the past year.

While we are discussing the financial conditions of our Society, would it not be a gracious move for the Society to pay the hotel bills of our guest speakers while in the convention city? This would amount to around $100.00 a year, but surely we should do this to show our appreciation to the great men who come to our meetings each year and not only give us their time and the benefit of their wonderful knowledge and skill, but also pay their own traveling expenses. The Wyoming Dental Society spends from three to six hundred dollars each year to pay, not only the traveling and hotel expenses of their guests, but as much as fifty to one hundred dollars a day for their time. Our guest speakers have not been properly treated in the past eighteen years and we hope the House of Delegates, at this meeting, will authorize the payment of all hotel expenses at our meetings from now on for guest speakers who come to us from other states.

The Secretary wishes to express his appreciation of the work done by our President, Dr. J. L. Wicks, during his term as President-Elect and as President. Our relations have been most pleasant and he has shown a wonderful cooperative spirit throughout the entire time. The average member of our Society little knows how much Dr. Wicks has given of his time and talents, because he has acted in such a modest way that few know how much he has done for the Society.

A review of the expenses for the year reveals little change in comparison with previous years excepting for the item of $200.00 voted to the Fremont County Medical Society to help in entertaining the State Society. This was done so that a small membership of five would not be called upon to pay for the fine entertainment arranged for by that Society at the Lander meeting.

Our Presidents should be provided with an expense account so that they could visit each society at least once a year. The President also ought to have a fund provided so that he would and could attend the meetings of the state societies of our neighboring states. Much valuable information would be gathered at these meetings and many improvements made in our own little society. When it is remembered that we are one of the smallest state societies and yet one of, if not the richest state societ yon a basis of cash on hand per member, we ought to do more and better things for our members. Our state is so large and our membership so scattered, and also due to the fact that we have no medical college, it does not seem practical to try to conduct postgraduate courses in Wyoming, but we can, and really should, join in the plan to hold a joint meeting once in four years with the rest of the Rocky Mountain States as proposed by the Colorado State Medical Society. Under this plan the House of Delegates could meet in Cheyenne the afternoon before the Denver meeting and elect officers and transact all business required and then go on to Denver for the scientific meeting which would be in the nature of a postgraduate course. Four years later the meeting could be held at the Yellowstone Park or Salt Lake City. We earnestly hope that our House of Delegates will act favorably on this plan. Surely no one would object to such a wonderful meeting at our very doors.

Your Secretary has just completed seventeen years of service. He was elected at the Thermopolis meeting, September 11, 1919, and feels that the time is soon coming when he must retire. From what he can judge it may be possible, if you so wish, for him to continue for the next year. Realizing the uncertainties of life and the complicated technicalities connected with this office, he believes it advisable to elect an assistant secretary so that this person may gain experience and so be qualified to carry on the work when this change is made. It will take at least a year for a new man to get thoroughly acquainted with the Wyoming conditions, methods. and men. Inasmuch as the Secretary himself never has been paid a salary it will require a man who can afford to spend the time and money, and who has in the past showed his interest in our organization by attending many of its meetings of the House of Delegates and working with the officers to better the State Society. This office should be filled by an active and interested young member with years ahead to devote to the Society as this is not just an honorary position.

The matter of building up a suitable program each year is no small task. As near as we can estimate there have been written over a thousand letters from our office this past year. Collection of dues, and the correspondence in the matter of Medical Defense protection by the U. S. Fidelity and Guaranty Company, requires hours of time. So does it take time to answer the questionnaires sent by the different state societies and departments of the American Medical Association. Then, too, it requires the better part of a week each year to go to Chicago to attend the annual meeting of the secretaries of the state societies. It would be well for the assistant secretary, if elected as such, to attend with the present secretary. We are entitled to send a secretary and an editor from our Society. At

these meetings, after years of attendance, one becomes acquainted with the real leaders of organized medicine and forms friendships which aid your state society in securing some of the leading medical and surgical men to come to the state meetings. This is of the utmost importance and if the House of Delegates will elect an assistant secretary for the next year your present Secretary will consent to serve and assist the new secretary with the distinct understanding that he be elected to carry on and serve as secretary.

Respectfully submitted,
DR. EARL WHEDON.
Secretary.

Thereupon the House of Delegates voted to adjourn sine die.

DR. EARL WHEDON.
Secretary.

PUBLIC HEALTH NOTES

More than 4,000 cities and towns in this country now chlorinate their water supplies, which has cut the annual death rate from typhoid fever from 25 to 4 per 100,000 population.

The smallpox belt in the United States begins with Washington, includes Idaho, Montana, Wyoming, Colorado, South Dakota, Nebraska, and Kansas, in which states the average number was cases of smallpox in 1935 was 64 in each 100,000 population or more than 25 times greater than the average rate of 2.5 per 100,000 population in the other 40 states.

Poliomyelitis

The presence of a few cases of anterior poliomyelitis in the state has created unnecessary alarm in lay circles, but happily has aroused wholesome interest among physicians.

There has been a notable increase in the number of cases reported elsewhere in the United States. For the week ending September 10 there were 183 cases recorded, Illinois leading with 30 cases, California reporting 25 and New York 20. From January 1 to September 11, 335 cases with 25 deaths were registered in Alabama; only 20 of the 67 counties in that state were free of this infection. The reopening of schools has been deferred in many sections of the South. In this connection, it is important to note that the U. S. Public Health Service is recommending, tentatively, the use of a nasal spray as a prophylactic agent. Many thousand WPA workers are now under such treatment in Alabama. Two solutions are employed:

Solution A: Dissolve one gram of picric acid in 100 c.c. physiological salt solution.

Solution B: Dissolve one gram of sodium alum in 100 c.c. of physiological salt solution.

These solutions are then mixed in equal amounts and are sprayed into the nasal passages several times on alternate days, and at weekly intervals thereafter.

Septic Sore Throat Traced to Raw Milk

Many cases of septic sore throat are directly attributable to drinking raw milk from infected cows, C. S. Bryan of the Michigan State College told the members of the Society of Bacteriologists and Pathologists and Allied Workers of Michigan, Indiana and Ohio.

Investigation shows that as high as four-fifths of herds tested, which supplied one large city with milk, were infected. In some herds only one cow had streptococcic mastitis, but as high as 26 per cent were involved. These infected cattle constitute a grave menace to public health because of the contagiousness of the infection.

From the standpoint of the farmer these cattle are also of little value, the speaker pointed out, for such infected cattle produce 22 per cent less milk and their butter fat production is reduced 24 per cent.—Science News-Letter.

The timely recognition of allergic hypersensitiveness in chronic conjunctivitis refractory to the usual forms of treatment may prevent corneal ulcers and impairment of vision. —Archives of Ophthalmology.

Diathermy is a valuable measure in the treatment of lobar pneumonia; the mortality in the diathermy group was one-third that of the control group.—N. E. Journal of Medicine.

TRAVEL

CARIBBEAN ☐	GUATEMALA ☐	HAWAII ☐
MEDITERRANEAN ☐	MEXICO ☐	ORIENT ☐
PERU ☐	ROUND THE WORLD ☐	SOUTH AMERICA ☐
PANAMA ☐	SOUTH SEAS ☐	WEST INDIES ☐

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Association News

THE annual meeting of the Colorado Hospital Association will be held on November 4 at the University of Colorado School of Medicine and Hospitals in Denver. An excellent program is in preparation. The meeting will be a one-day session.

Hospital Publicity

PUBLIC education with regard to the hospitalization facilities of a community is of course dependent on the publicity that can be given to the community's hospital activities. Yet in most instances the publicity which emanates from the hospital relates directly to the activities of its medical staff. Such publicity is, according to the standards of the medical profession, unethical, and is therefore ordinarily suppressed rather than exploited.

Unfortunately most of the publicity given hospitals is attendant upon some untoward event occurring in the hospital and is presented by the press as a sensational story. The delirious patient who jumps from the window of an upper floor; the patient who dies during the course of an operation; the occasional explosion which occurs in a hospital operating room; these and similar unfortunate occurrences which happen once in a long while in any institution offer a fertile field for front page headlines.

Only too many individuals, reading of these occurrences, are ready and even eager to use them to cast unpleasant reflection on some institution in which they feel they have not received proper care, or which, perhaps, has pressed them for a long overdue bill.

The fear of such publicity and its probable effect has become so deeply ingrained in the make-up of the hospital's administration that because of it, numerous opportunities for proper, ethical and valuable public education have been more or less neglected.

There is no logical reason for withholding from the public valuable information concerning the activities and advantages to be found in hospitals. Many ethical avenues of publicity are open, but hospital publicity is too often of a sporadic, rather than consistent, nature.

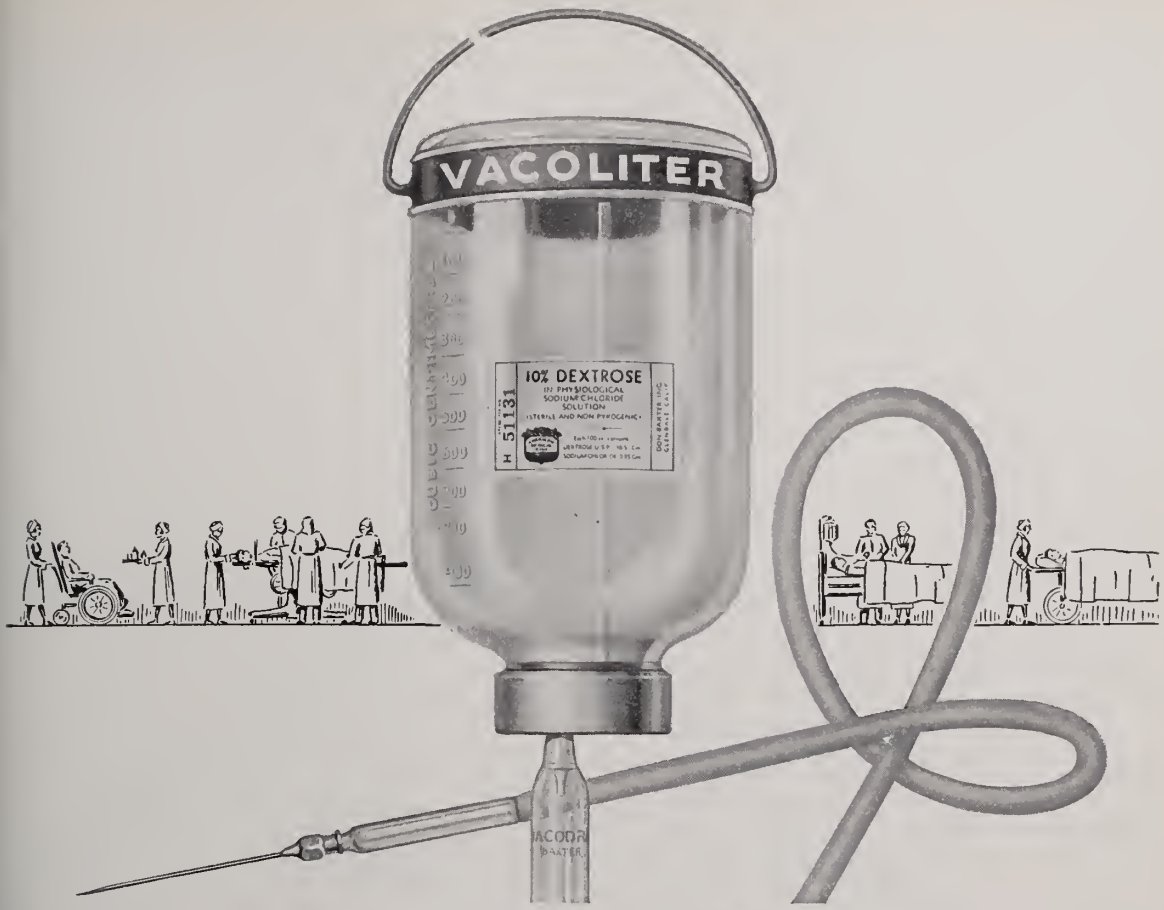
Open house for the public, the personal approach of the radio, Hospital Day and above all the press, when guided into proper ethical channels, afford excellent means of bringing to the public the impression that hospitals are not necessarily places of gloom and sadness but live, active, and efficient institutions devoted to rendering cheerful and effective service to those in need of physical rehabilitation.

Nurses

NURSING schools began in the United States in 1873. In 1934 there were almost 1,500 nursing schools, graduating 25,000 trained nurses. There is one trained nurse for every 416 persons in the United States.

Autopsies

PROGRESS in obtaining autopsies is slow. No adequate method for proper education of the public to the advantages of autopsy has yet been devised. It might be well therefore to consider the education of our own personnel—the medical profession,

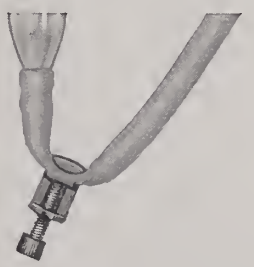


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nurses, interns and pathologists. Too frequently our only thought is of the object to be attained and we forget the natural resistance of the family, religious prejudice, and the antagonism of uninformed friends of the family. Often it is said that the mortician is instrumental in persuading the family not to grant permission for an autopsy. Possibly it is fair to ask whether this attitude on the part of the mortician does not grow out of the pathologist's neglect to consider the part the mortician must later play in performing his function. Again, often it is the funeral director who obtains the family's consent when all other efforts have failed.

Communicable Diseases

THE marked increase in the number of cases of poliomyelitis reported over the country again brings up the question of the care of communicable diseases. Nearly three million cases of communicable disease are reported in this country annually, and many more are not reported. About half of these cases occur in children. These diseases furnish about 15 per cent of total deaths. Over 50 per cent of our crippled children owe their handicap to tuberculosis and infantile paralysis. Adequate medical care and public health protection are available, but proper hospitalization is difficult to obtain. General hospitals are becoming progressively more disinclined to accept contagious cases for treatment or to establish isolation wards. As a rule available contagious disease hospitalization is reserved for smallpox, diphtheria, and scarlet fever patients and only rarely does the contagious hospital have the facilities of the modern general hospital. Patients must, as a rule, depend on the services of the "contagious disease physician" for general care and special surgical, obstetrical, otolaryngological and similar services are not available.

The care of communicable diseases is too often thought to be a problem for municipal or county authorities and no provision is made for the type of hospitalization desired by the class who would ordinarily become private patients in a private institution and they must, if they desire hospitalization, be made to feel that they are charity patients.

A few general hospitals have successfully maintained isolation wards. This, of course, requires properly trained medical and nursing staffs, and possibly the fact that even though there be no epidemic and the isolation section, though empty, must be maintained ready for service, may cause many general hospitals to avoid installation of isolation sections.

Mortality Among Workers Lower in 1935

The death-rate for 1935 among approximately 17,000,000 industrial policyholders of the Metropolitan Life Insurance Company in the United States and Canada was at the lowest point of all time, namely, 8.4 per 1,000. The best previous figure was that for 1934, when a death-rate of 8.5 per 1,000 was recorded.

The low death rate in the wage-earning population, says the January Statistical Bulletin of this company, not only for 1935, but during all six of the depression years 1930 to 1935, has been truly remarkable in view of the difficult economic conditions which prevailed during this period. Obviously, large scale unemployment is not conducive to low death-rates. The fact remains, nevertheless, that the average death rate among the insured American and Canadian families since the beginning of the depression was only 8.6 per 1,000, whereas in the six years 1924 to 1929, a period marking the peak of prosperity, the average was 9.2 or nearly 7 per cent higher.

It cannot be determined at this writing whether the mortality rate for the general population of the United States in 1935 was lower than that for 1924. Data from seventeen states, covering fractional parts of the year, point to an improvement.

Five diseases—typhoid fever, tuberculosis, diarrheal conditions, chronic nephritis, and puerperal diseases, and two forms of accidental death (burns and drowning)—registered new low death-rates among Metropolitan industrial policyholders in 1935. Rates identical with previous lows were recorded for machinery and railroad accidents.—The Diplomate, April. 1936.

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*Proc. Soc. Exp. Biol. and Med., 1934, 32, 241-245
Laryngoscope, Feb. 1935, Vol. XLV, No. 2, 149-154
N. Y. State Jour. Med., June 1935, Vol. 35, No. 11
Arch. Otolaryngology, Mar. 1936, Vol. 23, No. 3, 306-309

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BOOK REVIEWS

Man The Unknown. By Alexis Carrel. New York: Harper Brothers. 1935.

Many great books have been written on Man, his anatomy, his physiology, and his social relations. Notable among recent books one should mention "The Wisdom of the Body" by Walter B. Cannon. But no one before Dr. Carrel has written a book on Man which became at once a "best seller." "Man the Unknown" has caused more excitement than the latest and most popular novel. Libraries have been mobbed in search of it. Women's Clubs have reviewed it. Preachers, priests, and nuns are avid for it. In club and hotel lounges young ladies push aside their empty cocktail glasses, press dainty handkerchiefs to rouged lips, light their cigarettes and enquire, "Have you read 'Man the Unknown,"? Great scientist, Alexis Carrel; received the Nobel prize; believes in telepathy, clairvoyance, and miracles." How so much popularity has been provoked cannot fail to prick our curiosity.

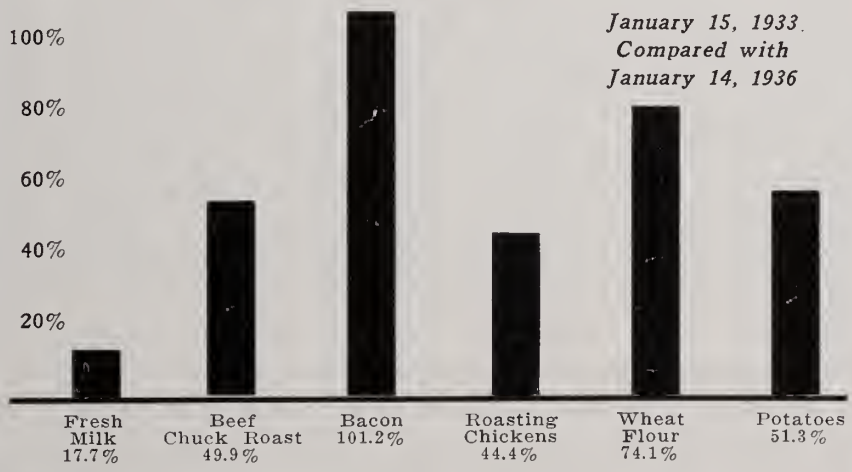
There is something in a name in spite of the pretty phrase of Juliet in the play. Ever since the human tongue could shape words its one unfailing theme has been Man. "I and mine, thou and thine." Now it is implied that man is, of all things, unknown. This is, indeed, a surprise and our surprise rises in **crescendo** as it becomes apparent that "Man the Unknown" is about to be revealed to us.

Dr. Carrel is, certainly, one of the foremost medievalists of our time. We all are directly the children of the mystics of the middle ages. Only a tenuous trace of culture do we receive from Greece. In Greece "Reason" was the supreme word, and the employment of reason was the most lofty exercise. In medieval times "Faith" replaced "Reason." A few men with sharp wits did, indeed, reason—but only about their faith. They were not curious about the events of nature which played about them. The ingredients of the life of the people during this long dark period were working, fighting, believing and praying.

Dr. Carrel looks wistfully back upon those days as if they held something precious which we have lost, perhaps, forever. He believes that mysticism is a fundamental characteristic of the human mind. It now lies dormant and neglected. If a whole life were devoted to its culture as was done in the years of long ago just such visions, such meaningful dreams and such extraordinary experiences as occurred to the saints might return to the sanest mind. There are millions of people who hold stoutly to medieval tradition. They vaguely believe that science threatens their faith. They resent this imagined challenge and open appreciative arms to any one, known as a scientist, if he but encourages them in their faith.

Few authors would have the audacity to add another book to a book-filled world without some apology. Dr. Carrel thinks that our present knowledge of Man has been developed by thinkers intent on narrow problems, experimenting by particular methods. Their work has been so specialized they fail to understand each other. He has set himself the task of joining these blocks of knowledge into a structure that comes within the range of human vision and comprehension. He thinks it necessary that someone should undertake this difficult synthesis. Man, he believes, is degenerating. We have studied extrinsic matter almost exclusively. We have so fashioned it as

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to contribute to Man's comfort, leisure, and desires. We live in air-conditioned buildings. We walk in dark streets flanked by tall buildings. We breathe an atmosphere charged with the vapor of gasoline. We are, then, strangers to sunshine, to fresh air, and to the vicissitudes of nature. We work but a few hours daily at monotonous tasks for high wages. We fail to exercise and develop our natural endowments. Man reaches his present estate through harsh discipline from which he could not escape. Unless some similar discipline is continued, his powers must decline. We must know Man to save him.

Dr. Carrel belongs to two continents. He was born in France and was transplanted into America. He feels that he is a citizen of the world. But this picture he draws appertains only to Manhattan—a little speck on the broad expanse of the American continent. It is, moreover, doubtful if the picture is a true one. It is distorted to suit the author's purpose. All the incidents which might possibly contribute to man's decline are carefully collected; all which might promote his development are as carefully neglected. If Man is not "slipping" Dr. Carrel's efforts at saving him are, obviously, in vain. It must not be so. As a savior he is audacious, energetic, and resolute Men outside our largest cities will wonder about those dark foul streets, those houses gratefully cooled while they perish from the torrid temperatures. They will be surprised to hear of those easy jobs and easier wages.

In his chapter on Physiological Activities we are told that we are wholly unconscious of events which do not affect our nerve endings and are thence transmitted to the brain as stimuli. The unknown agent of telepathic communication is the only exception to the rule. In clairvoyance, he declares, the subject grasps "extreme reality" without the intervention of nerve channels. He even ventures to assert that the knowledge gained through telepathy is more certain than that acquired by observation and experiment. But before one can succeed in mystic practices years must be spent in self-denial and self-depreciation. Then one may reach a stage of "intuitive life when one is in God and acts with him." Thus by contemplating "superhuman beauty," whatever that is, mystics and poets may reach "ultimate truth," whatever that may be. The author accepts as valid the account of patients claiming to have been miraculously cured at Lourdes. These reports include the healing of cancers and the immediate cicatrization of wounds.

It would be unfair, in a review of Dr. Carrel's book, to leave the impression that it is all mysticism. It is not even preponderantly mystic. There are chapters on Physiologic Activities, Mental Activities, Inward Time, Adaptive Function, The Individual, and Remaking Man. The expression Inward Time is original. It refers to physiologic time as opposed to the calendar. Osler covered the ground well in a short swift sentence, "A man is as old as his arteries."

Dr. Carrell's imagination is as active as his faith is strong. Throughout his book he makes many attractive suggestions. At times he paints a picture of rare beauty. His sentences are short after the manner of the French. They are encumbered too often with the language of the laboratory. He has won a large uncritical audience. One may fear he has lost a small discriminating audience.

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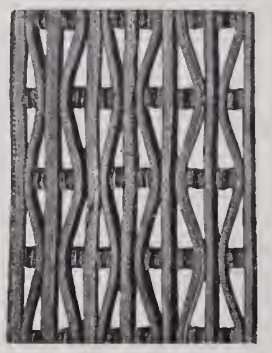
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Prescription Writing and Formulary. The Art of Prescribing. By Charles Solomon, M.D., Assistant Clinical Professor of Medicine, Long Island College of Medicine; Associate Attending Physician and Chief of the Medical Clinic, Jewish Hospital of Brooklyn; Lecturer in Materia Medica, Nurses Training School, Jewish Hospital. With a Foreword by Lewellys F. Barker, M.D. 32 Illustrations. Philadelphia, London, Montreal: J. B. Lippincott Company.

This book is written for one of the frequently neglected fields in our modern medical curriculum. The author has prepared a discourse on the art of prescription writing which is readable, practical, instructive and well edited.

Most of the material in this treatise is valuable and simple. Its simplicity is greatly enhanced by the omission of stereotyped padding, so frequently encountered in this type of book.

A careful perusal of its contents will pave the way for more "fluent" and scientific prescription writing. It will make it less difficult to write in terms of U. S. P. and N. F. preparations, than in obscure, unscientific wordage of proprietary misnomers.

The section of formularies will be a revelation to those who are accustomed to thinking in terms of "Shot-gun" prescriptions, or in the ambiguous language of the detail man. The prescriptions are simple, concise, and correctly written in both Latin and English. Doses appear in both the apothecary and metric systems.

The book should prove particularly useful to the interne and young practitioner whose cerebral convolutions are still malleable. To those of us who have fallen into evil ways in the art of prescribing, the volume may well be a source of enlightenment.

HENRY LEWIS COOPER.

Clinical Heart Disease. By Samuel A. Levine, M.D., F.A.C.P., Assistant Professor of Medicine, Harvard Medical School; Senior Associate in Medicine, Peter Bent Brigham Hospital, Boston; Consultant Cardiologist, Newton Hospital; Physician, New England Baptist Hospital, Boston. 445 pages with 97 illustrations. Philadelphia & London: W. B. Saunders Company, 1936. Cloth, $5.50 net.

This is one of the best of many good books on heart disease that have been published in recent years. The first sentence of the preface states "the purpose of this book is to present in a simple form the important aspects of the diagnosis, prognosis, and treatment of heart disease." The author has accomplished his purpose exceptionally well, taking up all of the different kinds of heart disease from Rheumatic Fever to Functional Heart Disease. He deals with each in such a way that the reader feels almost as if he were at the bedside with the teacher, having the intricacies of differential diagnosis made plain. Dr. Levine not only enumerates symptoms and signs, but weighs them as to frequency and importance. More than this he tells which therapeutic measure to try first and why, the advantages of each method, its dangers, and what can be expected of it.

There are several extraordinary chapters in the book, to wit: "Rheumatic Fever," "Cardiovascular Emergencies," "The Clinical Significance of the Systolic Murmur," and "Factors Concerning Prognosis in Heart Disease." In these, particularly, he answers questions that have come into bewildered minds.

If this book were read by senior medical students it would simplify many of the problems that

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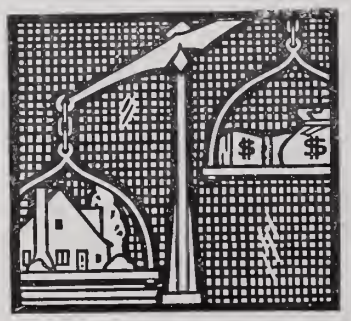
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Antivenin is prepared by the hyperimmunization of sheep with repeated doses of venom from the black widow spider. The serum is standardized by determining its neutralizing effect when mixtures of it with venom are injected into young rats. Clinical reports upon this product as well as information as to dosage and administration are contained in literature supplied by E. R. Squibb & Sons upon request.

Antivenin is available in ampules of sufficient content to permit the withdrawal and administration of 10 c.c. of the serum.

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The Council verifies the composition and analysis of products, and substantiates the claims of manufacturers. By standardizing nomenclature and disapproving therapeutically suggestive trade names, it discourages shotgun therapy and self-medication. It is the only body representing the medical profession that checks inaccurate and unwarranted claims on circulars and advertising as well as on packages and labels.

The Council cooperates, through the N.N.R., and in other ways, with the U. S. Pharmacopoeia Board, testing and evaluating scores of new products which appear during the ten-year interim between Pharmacopoeial revisions.

We are conscious of the fact that the Council has at times been criticized both in and out of the medical profession. We hold no brief for perfection in any human agency. But we subscribe to the fact that the work of the Council is sound in principle; and in this high-pressure day and age, we shudder to think of a return to the proprietary-medicine-quack-nostrum conditions of over thirty years ago, when there was Babel instead of Council.

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Professor H. B. Stein,
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Dear Sir:

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There is no danger in making such tests with men because arthritis produced by a faulty diet can be easily cured in its first stage.

After the tests are made I will explain why my dietary formula produces arthritis. I will also give several other dietary formulas for producing arthritis and dental decay in man, and I will explain what I know about the cure, cause and prevention of arthritis and dental decay.

Besides faulty diets, pathabolism, infection, there are several factors which can produce arthritis. If the joints' fluid is not normal for some time (especially the PH) it will produce arthritis.

As far as I know, I am the only one who has produced arthritis in man by dietary tests. My discovery is based on the chemistry of foods.

About 3 per cent of the population is more or less arthritic and it causes a big economic loss. About sixty thousand ex-service men are disabled by arthritis. This alone costs the government over sixty-thousand dollars a day. That is a big reason why the tests should be made as a matter of economy, if nothing else.

The discovery of the cause of arthritis is more important than most of the discoveries which have received a Nobel prize, so it is worth your while to make the tests. The tests will lead to further discoveries.

If you doubt my discovery you can make the tests on yourself, first, it will soon convince you. For a sentimental reason I offer my discovery to Colorado and I hope that it may be kindly accepted.

Yours very truly,

P. S. My letter was written with a pencil in order to make carbon copies.

Will you please find out and let me know how many milligrams of cocaine there are in 10 liters of Coca-Cola syrup such as is served to the public. Said syrup is made from the juice of the coca leaves and so is cocaine.

* * *

A Scotchman had been told by his doctor that he had a floating kidney. He was much disturbed by the diagnosis and went to the minister of his church with a request for the prayers of the congregation.

"I don't know," said the minister dubiously, "I'm afraid that at the mention of a floating kidney the congregation would laugh."

"I don't see why they would," replied the sufferer. "It was only last Sabbath you prayed for loose livers."—Royal Arcanum Bulletin.

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Doctor: "You've grown pretty thin, Jones."

Jones: "Yeh, doc. In fact it's gotten so that when I have a pain in the middle I can't tell whether it's a stomachache or a backache."—The Farmer.

* * *

Laughter is one of the best medicines in the world. It is a splendid tonic and awakens the appetite for happiness."—Marshall P. Wilder.

* * *

Housewife: "Look here, my man, why do you always come to my house to beg?"

Tramp: "Doctor's orders, madam."

Housewife: "Doctor's orders?"

Tramp: "He told me that when I found food that agreed with me I should stick to it."—Pearson's Weekly.

* * *

"There's that man who's always giving women something to talk about."

"A scandalmonger, eh?"

"No, a surgeon."—Portland Press Herald.

* * *

A Lot of Bunk

Arthur Brisbane says that all parents should send their children to school in Florida to grow up healthy and husky in the sunshine. It's too bad the parents of those puny Minnesota football players didn't think of that in time.—Baudette Region.

* * *

Doctor—What is your complaint now?

Sick Man—Doctor, the other doctors seem to differ from you in their diagnosis of my case.

Doctor (cheerfully)—I know, but the post-mortem will show which of us is right.

* * *

We have been unable to confirm the report that the medical profession is trying to interest Wallace in an apple-control bill.—Philadelphia Inquirer.

* * *

Beginning

Fried—How is your son gettin galong in his medical studies?

Proud Mother—Fine; he can already cure very small children.—Border Cities Star.

* * *

April's Vagaries

April's always out for thrills,
First a pot of gold she spills
Down upon the daffodils.

Charming, whimsical and gay,
Wild or winsome is her way,
She may flirt, perchance, or pray.

Then, when all her wiles are vain,
Fled her lovers, fond and fain,
She calls Winter back again.

* * *

Overworked

Boss: "So you want to leave the works. Are your wages insufficient?"

Pat: "The wages are all right, sur, but I'm afraid I'm doing a horse cut of a job."

* * *

Rocky Outlook

"The thing for you to do," said the doctor to the man with the frazzled nerves, "is to stop thinking about yourself—to bury yourself in your work."

"Gosh!" returned the patient, "and me a concrete mixer."—Border Cities Star.

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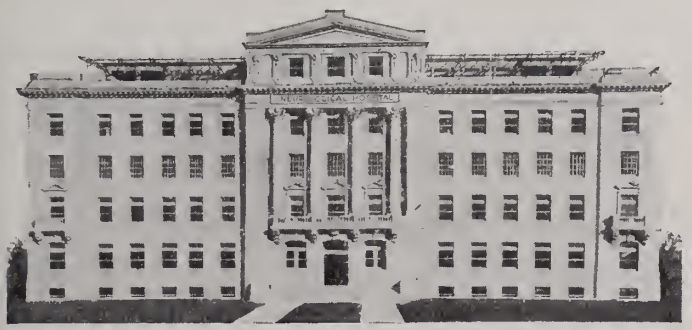
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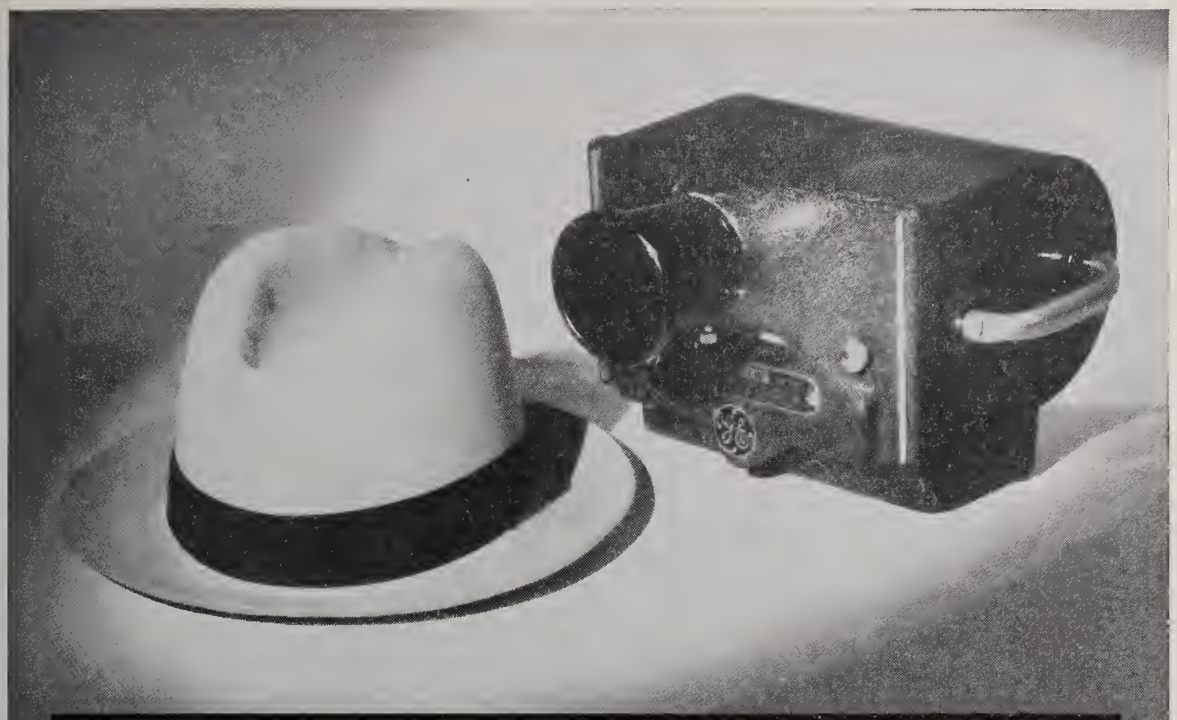
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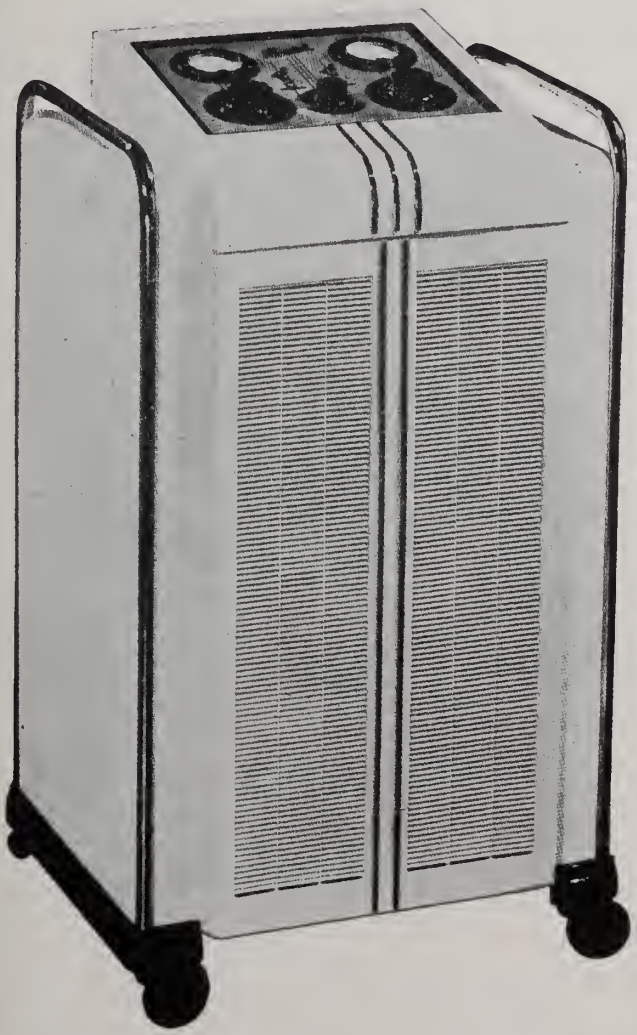
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V. VITAMIN G

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Since Goldberger's pronouncement, considerable research has been devoted to resolution of the vitamin B complex and, what is equally important, to testing the specificity of vitamin G in the cure of human pellagra (2).

The findings in the laboratory and clinic have not, in some respects, been entirely in accord (3).

As reports of further investigations appeared in the literature, it became clear that the vitamin B complex had been aptly named. At one time claims were made for the existence of as many as eight factors in this complex (4).

While later work has reduced this number, we know today that what has been considered in the past as vitamin G is, in reality, a combination of several factors. A relation between experimental cataract and vitamin G has been described and, recently, another associated factor was postulated (5).

The significance of these individual factors in human nutrition has not as yet been established. However, regardless of this fact, students of nutrition are agreed that we must provide for the inclusion of so-called vitamin G—admittedly a complex—in the daily dietary. It is also obvious that until more is known about the individual components of the complex, we must continue to depend upon present day bioassay methods to determine the "vitamin G" potencies of foods.

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(1) 1926. U. S. Pub. Health Report, *41*, 297.
(2) 1934. Am. J. Med. Sci., *187*, 512.
1935. J. Am. Med. Assoc., *104*, 1377.
(3) 1932. J. Am. Med. Assoc., *99*, 120.
(4) 1933. J. Nutrition, *6*, 559.
(5) 1934. J. Nutrition, 7, 97.
1936. Science, *83*, 17.
(6) 1932. J. Nutrition, *5*, 307.
1932. Ind. Eng. Chem., *24*, 457.
(7) 1932. J. Am. Med. Assoc., *99*, 95.

This is the eighteenth in a series of monthly articles, which will summarize, for your convenience, the conclusions about canned foods which authorities in nutritional research have reached. We want to make this series valuable to you, and so we ask your help. Will you tell us on a post card addressed to the American Can Company, New York, N. Y., what phases of canned foods knowledge are of greatest interest to you? Your suggestions will determine the subject matter of future articles.



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ACIDOSIS *or* ALKALOSIS?

prescribe KARO

Acids galore are normally formed in the body and eliminated—carbonic, lactic, phosphoric and sulphuric. They are almost completely neutralized by base from cells, intercellular fluids and blood plasma. The body fluids thus maintain the normal faint alkalinity of pH 7.4.

But the defensive mechanisms of the body capable of preventing changes in reaction may be deranged in disease with consequent acidosis or alkalosis. Acidosis is associated with hyperpnea, diarrhea, dehydration, anoxemia, circulatory or renal insufficiency; alkalosis with excessive breathing, vomiting.

Treatment of acidosis is designed primarily to correct the underlying cause. In most types, fluids and fruit juices with Karo are forced every hour. In cases associated with ketosis (except where it is a disturbance in carbohydrate metabolism, as in diabetes mellitus) 20% dextrose is given intravenously at repeated intervals. In case of diabetes, insulin is given, by some authorities, simultaneously one unit for each gram of dextrose, until the condition is controlled.

CAUSES OF ACIDOSIS

EXCESSIVE ACID FORMATION

Acid	*Disturbance*
Aceto-acetic B-hydroxybutyric	Starvation Cyclic vomiting Diabetes Ketogenic diet
Lactic	Asphyxia Intestinal intoxication Respiratory failure Shock Burns

DEFECTIVE ELIMINATION

Metabolite	*Disease*
Phosphate	Nephritis
Carbonic acid	Emphysema Respiratory obstruction Myocardial failure Narcosis

CAUSES OF ALKALOSIS

EXCESSIVE LOSS OF ACID

CO_2	Hyperventilation Tetany Cerebral lesions (respiratory center) Hysteria Excessive crying
HCl	Vomiting Pyloric stenosis Intestinal obstruction

EXCESSIVE INTAKE OF ALKALI

$NaHCO_3$	in Pyelitis in Nephritis

From Kugelmass' "Clinical Nutrition in Infancy and Childhood"—(Lippincott)

Treatment of alkalosis depends upon the cause. The most common variety in children is that resulting from prolonged vomiting with loss of acid, salt and body water. No food is given by mouth except fluids with Karo, and saline intravenously. If alkalosis is the result of alkali administration in the presence of nephritis with poor kidney excretion of salts, large amounts of fluids with Karo will favor excess base elimination. Alkalosis from excess alkali administration is alleviated by forcing fluids with Karo.

In both acidosis and alkalosis, Karo is a carbohydrate of choice in the emergency of treatment. Karo consists of dextrins, maltose and dextrose (with a small percentage of sucrose added for flavor), not readily fermentable, rapidly absorbed and effectively utilized.

ACCEPTED AMERICAN MEDICAL ASSN. Council on Foods



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WHEN THE new mother has passed through the first two stages of labor —her strength expended and her physical resources at an ebb—the outcome of her pregnancy must not be compromised. Observing every precaution, the experienced physician chooses his pituitary extract with care.

PITUITRIN, the Parke-Davis solution of posterior pituitary U. S. P. is the *original* commercial pituitary extract. The greater portion of the clinical data reported in the literature has been based on this preparation.

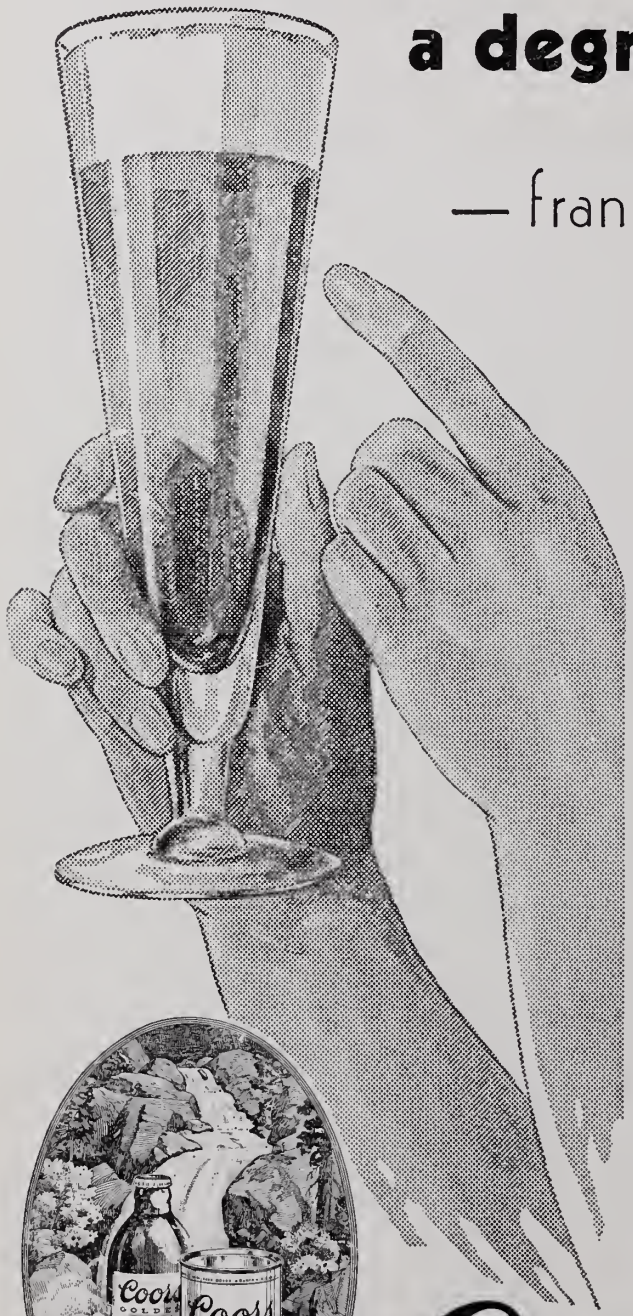
BECAUSE Pituitrin served to introduce pituitary extract to the medical profession, and because of its subsequent wide-spread use, the name is occasionally misapplied to other pituitary products. Be certain that Pituitrin (which is prepared only by Parke, Davis & Company) is supplied on all requisitions. Specify "Pituitrin, P. D. & Co."

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Coors GOLDEN

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A Product of ADOLPH COORS COMPANY, GOLDEN, COLORADO

Allies

in the conquest of syphilis



MOST AUTHORITIES on the subject of syphilis agree that maximum curative effects are obtained when an arsenical and a heavy metal are used alternately and continuously for a period of from at least twelve to eighteen months.

Two products by the House of Squibb —Iodobismitol with Saligenin and Neoarsphenamine—are effective allies in the treatment of syphilis. Neoarsphenamine Squibb is characterized by its rapid and ready solubility, high spirocheticidal power and low toxicity. Also available under the Squibb label, and equally effective when conditions indicate their use, are Arsphenamine and Sulpharsphenamine.

Iodobismitol with Saligenin is offered as a product suitable for obtaining all of the systemic effects of bismuth in the treatment of syphilis. It presents bismuth largely in anionic (electronegative) form. It is slowly and completely absorbed and slowly excreted, thus providing a relatively prolonged bismuth effect. Repeated injections are well tolerated and very effective in both early and late syphilis.

Iodobismitol with Saligenin is a propylene glycol solution containing 6 per cent sodium iodobismuthite, 12 per cent sodium iodide and 4 per cent saligenin (a local anesthetic).

For literature address Professional Service Department, 745 Fifth Avenue, New York.

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Colorado Medicine NOVEMBER 1936

Editorial

Meeting of Board of Trustees And Committee Chairmen

IMMEDIATELY following the annual session of 1935 there was held in Denver a joint meeting of the Board of Trustees and the Chairmen of all recently appointed committees of the State Society, at which were discussed current problems and plans for future activities. The duties and objectives of each committee were stated and its chairman requested to outline his plan for their accomplishment. Overlapping of activities were thus largely avoided and a general familiarity with the policies of the Society established.

The advantages of such a conference were at once apparent and were, we believe, fully demonstrated in the increased efficiency of organized activities during the past year, and a similar meeting was held on October 6 of this year, at which the following important subjects were freely discussed:

The Committee on Cancer Education submitted its plan for cooperation with the National Society for Control of Cancer in its campaign in Colorado in the near future.

The Committee on Public Policy outlined its program for bringing to our members a more acute realization of their obligation to interest themselves in the intentions and attitude of candidates for the legislature.

The Committee on Annual Clinics asked for suggestions on the scope and character of the programs for these important events.

The Committee on the Rocky Mountain Joint Session indicated the extent and complexity of this undertaking, and gave an outline of the necessary organization that will include the whole state if this conference is to be the success that we must make it.

The Committee on Scientific Work reviewed the program of the last meeting and asked for criticisms and suggestions for next year.

It is certain that there will be an organized and consistent effort to control syphilis and there was some discussion of the need of such an effort and of the probable lines along which it will be directed.

The meeting was in effect an administrative council and will, we believe, prove of such advantage as to be made a routine occurrence. That twenty-eight men could spend an evening in preliminary consideration of the special and general affairs of this Society is evidence of their interest and loyalty and assurance that there need be no apprehension for its future progress.

A. J. M.

Our Part in the Cancer Program

PLANS have been completed by the American Society for the Control of Cancer, the Colorado State Board of Health, and our own Committee on Cancer Education for an intensive Colorado campaign to inform the laity regarding the nature, diagnosis, and treatment of cancer. Churches of all denominations will cooperate, so that programs by medical speakers will be given through the church associations. These programs will direct listeners to their family physicians for complete physical examinations, directing them only to Doctors of Medicine.

The House of Delegates of the State Society, at the recent Glenwood Springs meeting, wholeheartedly approved this program. Elsewhere in this issue the discussions and actions of the House on this important matter are presented.

To coordinate with this lay program, your State Society's Committee on Cancer Edu-

cation has adopted as its symposium subject for the 1936-1937 year, "The Clinical Diagnosis of Early Cancer." In addition it is planned to send, whenever requested by the County Society, a diagnostic team for the purpose of holding diagnostic clinics prior to the County Society meeting. At these clinics doubtful cases as well as evident cases of cancer may be presented. This type of program is believed to be important this year in view of the necessity of complete and careful examinations of all patients who are inspired to visit their physicians as a result of the programs given in churches.

In view of the fact that the campaign of talks to churches is to be carried out and completed before Christmas, it becomes urgent from the viewpoint of medical organization that every local medical society possible arrange to have its annual cancer program for this year held before December 1.

Members, and particularly presidents and secretaries of local societies are therefore urged to give immediate attention to urgent correspondence from the State Society's Cancer Committee, mailed to them late in October.

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Rocky Mountain Tuberculosis Conference

THE Rocky Mountain Tuberculosis Conference met at the Franciscan Hotel in Albuquerque on September 28 and 29, 1936. From the standpoint of attendance and program it was the best in the history of the Conference. There were two sections, the sociological and the medical.

The speakers came from the whole western United States. Probably the most conspicuous feature of the program was the symposium on collapse therapy. This was discussed thoroughly from every angle.

The profession of Albuquerque was a most genial host and declared that it was one of the biggest meetings in Southwestern medical history.

These Conferences are held every two years. The next meeting will be held in Tucson, Arizona.

The officers for the coming term are: President, Dr. Harry J. Corper of Denver; Vice President, Dr. C. A. Thomas of Tucson; Secretary-Treasurer, Dr. Arnold Minnig of Denver; Auditor, Dr. O. E. Egbert of El Paso.

A. M.

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Questionable Automobile Insurance—Beware!

THIS is not the first time these columns have carried warnings against new or untried insurance schemes which smooth-talking salesmen sell or try to sell to doctors. Some such schemes are honest enough, but are unproved, unsafe. Others bear all the earmarks of racketeering.

Your editors have learned of a supposed "fleet" automobile policy which is being peddled to physicians in Denver—perhaps also in other Colorado cities. The salesman glibly explains ridiculously low premiums on the ground that these policies are sold only on the "fleet" of cars owned by members of the Medical Society. The salesman constantly implies that the Medical Society holds the "master policy" and in other ways approves the scheme.

No salesman for any automobile insurance company has the right to use the name of the Colorado State Medical Society in any manner.

On the policy itself, the name of the Medical Society is not used as such. Rather, the policy reads as being issued to "Dr. John Doe and/or The Colorado Society of Denver." There may be a "Colorado Society of Denver." It may be a fine organization. It may be a historical society. It may be a political group. It may be anything else; we do not know. But we **do** know that it is **not** The Colorado State Medical Society, though insurance salesmen try to give that impression.

This automobile policy is issued by a mutual insurance company, one which retains the right in its policies to make assessments against policyholders, known in insurance parlance as "an assessment company." It

may be perfectly good insurance, sold by a perfectly honest and reliable company. But we cannot help but feel that "there is an Ethiopian in the fuel supply" when salesmen dishonestly use the name of the Medical Society to sell an insurance policy that because of its very cheapness must surely breed suspicion.

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Conservative Treatment of Empyema in Childhood

A SERIES of empyema cases treated chiefly by aspiration has recently been reported from the pediatrics department of a large general hospital. The technic is simple and the results apparently superior to comparable series treated surgically.

After the usual infiltration of local anesthesia, pus is withdrawn through a needle leading to a 50 c.c. syringe. Each 50 c.c. of pus is replaced with 40 c.c. of air, the process being repeated until air only is obtained upon aspiration. The cavity is then irrigated with 1/3300 azochloramid solution until it returns clear. It is recommended that this be done daily while the child is febrile, then as indicated by the general condition or radiographic observations.

The replacement of air is said to enhance comfort, alleviate possible shock from a mediastinal deviation of organs and prevent adhesions. There is certainly less damage to the pleura and more rest of the diseased lung. The air is slowly absorbed, obliterating the cavity, and negative pressure is restored.

In this particular series of cases, the mortality in thirty-two cases was 6.2 per cent. Twenty-eight per cent had closed drainage after a trial at aspiration. Ninety per cent of these recovered. Of the 72 per cent treated by aspiration and air replacement only, 95.7 per cent recovered.

We might deduct that in the majority of cases of empyema in childhood, the conservative procedure is adequate. Rib resection may be carried out in due time if satisfaction is not otherwise obtained.

Definition Of Shock

THE term "shock" has recently been redefined, in the light of present day knowledge, by Dr. Walter J. Meek, Professor of Physiology at the University of Wisconsin. The word has been one of the commonest in medical terminology, but its meaning has been general and indefinite.

It usually alludes to a group of signs and symptoms associated with hypotension or circulatory failure—low arterial and venous pressure, small pulse, reduced alkali reserve, low oxygen consumption, sweating, clammy skin, poor color, weakness, et cetera. The chief of these may be considered the low blood pressure. The mechanism of this is dependent upon myocardial failure, obstruction or rupture in the vascular system, loss of peripheral resistance, increased vascular bed or deficient blood volume. In view of this obvious complexity, Dr. Meek proposes a new and simple definition of shock: the state which results from a decrease in the effective circulatory volume. Thus there is only one kind of shock, though there may be many causes. Its manifestations may all be explained on the basis of "insufficient blood moving under pressure to satisfy the needs of the tissues." Hemorrhage, of course, is but one way the effective blood volume may be reduced. Other causes are tranudation, stasis, relaxation of the vessels and the capillary bed—each or all producing the picture of shock. The ultimate underlying factor may be toxic or nervous; contributing factors may be chemical, as from depletion of chlorine, or hormonal, as lack of adrenal cortical secretion.

Based upon this physiological conception of shock, we find the rationale of the known effective measures for its treatment—restoration of blood volume, control of capillary permeability, stimulation of cardiovascular centers, elimination of adverse sensory insults, and the administration of oxygen.

THE SYPHILIS PROBLEM—HOW SHALL WE MEET IT?*

H. N. COLE, M.D.
CLEVELAND, OHIO

In the July, 1936, issue of the Survey Graphic, and condensed in the Readers Digest of the same month, the Surgeon General of the United States Public Health Service breaks all precedents and asks of our citizenry: "Why Don't We Stamp Out Syphilis?"† Dr. Parran but recently completed a six years' term as Health Commissioner of the State of New York. Much of this term of service was devoted to organizing and carrying forward a campaign against syphilis. Now as Surgeon General of the United States Public Health Service he announces his intention of even more vigorously furthering this great movement.

Syphilis, a disease that annually victimizes 500,000 people; a disease for which 650,000 people are under treatment every year and for which many more do not receive it; a disease that ranks with cancer, tuberculosis and pneumonia as one of the great killing diseases; that does one hundred times as much damage each year as infantile paralysis—yet we studiously carry on a campaign of silence, both in regard to the scourge and to its effects. The public may be partly at fault in this situation, but the medical profession is not far behind. Why have we so carefully used the word "lues" on hospital wards and in our medical lectures if it were not to keep that dread word "syphilis" from falling on the ears of our listeners. As Dr. Parran well puts it, it is only within the past year or so that the word has appeared in our newspapers, and even yet it is almost impossible to present inoffensive educational moving pictures on the subject to the public because of censorship of that great blank wall of public opinion that closes its eyes and its ears, refusing to see or to hear the truth.

The object of this paper is not to paraphrase Dr. Parran's fine exposition, even if it were possible, but rather to call your attention to it and ask you to read it†; to spread it among your friends and patients; to talk it! The further object of this introduction is to ask ourselves the sobering question, "What should the medical profession do to further this campaign?"

End the campaign of silence! Educate the public!

In the first place, we should do our part in leading the public to take a sane viewpoint about syphilis. Syphilis is one of the contagious diseases. A large proportion of the infections are innocent, if one considers not only the extragenital infections but also the wives infected in marriage and the infected children of syphilitic parents. Then why should we look upon this condition in any different light than we do tuberculosis, typhoid fever, bubonic plague, or any of the other diseases inimical to public health? A campaign of education is necessary. What has brought about the great strides in overcoming tuberculosis? Much of it is due to education. The same should be done with syphilis. The disease, its symptoms, its method of contraction, its effects, should be discussed in our schools, in our clubs, in our churches and in our Parent-Teachers Association. It should be brought before the clear light of day in our newspapers, in our magazines, and in our moving pictures. Who can do this better than the medical man? The medical profession should preach the necessity of compulsory physical examination before marriage, the value of yearly physical examination for everyone—this to include the routine Wassermann reaction. In no other way can local, state and national medical societies be of greater service to our citizenry. The "hush-hush" policy, as Dr. Parran calls it, must end; the

*Address read by invitation before the meeting of the Colorado State Medical Society, Glenwood Springs, Colo., September 8, 1936. From the Department of Dermatology and Syphilology, Western Reserve University Medical School.

†Reprints of Dr. Parran's article, "Why Don't We Stamp Out Syphilis," can be bought from Reprint Editor, Readers Digest, Pleasantville, N. Y. Five to 100, 2 cents each; 100 to 1,000, $1.50 per hundred; 1,000 or more, $12.50 per 1,000. Distribute them to your patients and friends.

organized medical profession should be the instrument.

Education of the Profession

It is true that syphilis is considered from many different angles in the curricula of all our medical schools. I have had medical students tell me that they read syphilis, saw syphilis and were taught syphilis all through their medical course. They then went out into practice and wondered if too much emphasis had not been laid upon the disease, for they were surprised at the paucity of material. Perhaps this was their fault; perhaps they were blind; perhaps they allowed their better nature to blind their scientific sense; perhaps this resulted in Dr. X not taking routine Wassermanns on socially prominent Mrs. Y during her pregnancy (how would it be possible for Mrs. Y to have syphilis?). As a result, a syphilitic baby was born. The emphasis on syphilis in medical curricula varies. Nevertheless, a recent survey on Teaching of Syphilis in Medical Schools revealed the fact that a formal course on the disease was taught in very few schools. Such a course is necessary to correlate the various phases of the condition as they are brought out by this and that department of the school. Instead of syphilis being emphasized too much in our medical curricula, it has not received the attention it deserves and a set series of lectures and demonstrations devoted to the subject should be a required course in every medical school. Moreover, more attention to the subject on the part of our various examining boards for physicians and specialists would be a healthy incentive to such courses. Instead of the average medical man knowing too much about syphilis, it is my firm belief that he is but poorly grounded in the fundamentals of its diagnosis, of its symptomatology and of its treatment.

The Duty of the Physician

The physician must remember that the frequency of syphilis runs anywhere from 3 to 4 per cent in the whites in certain sections of the country, and up to 25 or 30 per cent in our colored population in some districts. It is no respecter of family or of station in life. It affects both rich and poor. As Stokes well puts it, the physician must raise his "index of suspicion" and be ever on the lookout for this protean disease. It may affect any organ in the body and it may assume the symptomatology of almost any disease. Such being the case, what will most simply answer the requirements of either eliminating or confirming its diagnosis?

Value of the Routine Wassermann Reaction

While the Wassermann reaction and the best flocculation tests are by no means infallible, and while in certain stages of syphilis the percentage of reactions is well below 100, yet on the whole they are a very satisfactory answer to the physician's requirements. One of the greatest strides in medical progress will have been made when the physician learns the value of the routine Wassermann test in his daily practice. It should be done the same as a urine test on every new patient. It should be an integral part of the yearly physical examination. Every pregnant woman should have a test in the third month of pregnancy, again at the sixth month and at the eighth month. The physician goes to great pains in checking her urine to rule out toxemias; why not take a routine Wassermann several times to rule out syphilis? Studies of the Cooperative Clinical group, consisting of the syphilis clinics at Johns Hopkins University, Mayo Clinic, University of Michigan, University of Pennsylvania and Western Reserve University, have shown that prenatal syphilis, heredosyphilis, congenital syphilis—call it what you will—is an absolutely preventable disease where syphilis in the mother is discovered before the fifth month of pregnancy and provided adequate continuous treatment with intravenous arsenical and intramuscular bismuth or mercury injections are kept up until time of delivery. Even in those cases where the infection developed later or was discovered later in the pregnancy, the vigorous institution of treatment assured a living child in a large proportion of cases, and some even of these children were cured. Moreover, the routine Wassermann on every child

should be as much the part of an examination as many of the other tests that are now being used to assure the child of freedom from contagious diseases. It is well known that there is a 100 per cent frequency of positive Wassermann reactions on the blood in prenatal syphilis. By the routine use of such a test on every child at any early age and repeated at two years and at school age every case would be discovered and this in many instances before the damaging scars of late prenatal syphilis have occurred. Vigorous treatment then being instituted would prevent in later life a large number of cases of blindness or partial blindness, of syphilitic eighth nerve deafness, of central nervous system involvement and of the many other late disabling complications of prenatal or congenital syphilis.

There are still other places where the routine Wassermann may be of inestimable value. About 30 per cent of all syphilis is in the stage of latency. This is that indefinite period following the secondary stage of the disease where physical examination reveals nothing. Even the lumbar puncture is negative, so that the only things on which the physician can base a diagnosis are a positive history and a positive Wassermann. In many cases there is even a lacking history. The latent period may last but a few years or many years. It is that period of the syphilis during which the undiscoverble spirochetes are slowly but surely, by way of the vasa vasorum, becoming more firmly entrenched in the body, preparing for greater things and trouble for their host. As Moore and others have emphasized, this latent stage of syphilis is most important. There is ever present, especially in early latency, the danger of relapse. Since these cases of latent syphilis are most of them unrecognized or unknown it may easliy be realized what havoc to others an infectious relapse in the form of a moist papule on the lip might cause before it has been correctly interpreted. Or, again, one can even imagine a latent syphilitic marrying, developing an infectious mucocutaneous relapse lesion on the genitalia and transferring it to his or her partner. Thus in many ways a latent syphilis may be more dangerous than a secondary syphilis. The latent case may be unaware of the "sleeping bombshell," while the secondary syphilitic should at least realize his condition and take appropriate precautions. Unfortunately, too many females with latent syphilis may enter the married state and perhaps not even infect their partners. If, on the other hand, a pregnancy takes place, there is a strong probability that the disease would be transmitted to the fetus. These examples will suffice, we believe, to show the necessity of a routine Wassermann; they also illustrate certain phases of syphilis where the test will be of exceptional value.

Importance of the Primary Stage of Syphilis and Its Early Recognition

There is still another phase of syphilis which, in the past, has been too frequently ignored or passed by as of little consequence —and this, too, in the face of the fact that syphilis in this stage is most easily cured. It probably would be well if the physician went on the premise that every lesion on the genitalia was a potential syphilis and should be considered as such though not treated with specific agents until such a time as it could be finally and correctly diagnosed, one way or the other. Unfortunately, the average physician too often diagnoses the lesion by clinical examination only, and either calls it a hard chancre or a soft chancre and institutes therapy. This also is bad practice. It is well known that a chancroidal lesion which has been treated with silver nitrate or copper sulphate may, within a few days, assume a picture the exact counterpart of a hard, cartilaginous primary. On the other hand, it is equally well known that an atypical primary may assume most any form, shape, consistency and even number. I have a photograph in my collection of four separate and distinct lesions on the penis in the primary stage. Spirocheta pallida were present on all the lesions. It is a serious step to make a diagnosis of syphilis on a patient, both for his welfare and for the well being of those

with whom he comes in contact. Yet it is most important that the physician ever keep in mind this possibility; the definite diagnosis, however, must be beyond question of a doubt. This can only be done by clinical interpretation backed up by tests. In the first ten days of the exposure the Wassermann test is of no value and this is where the average physician makes his mistake. He takes one blood test, finds it negative, and assures the patient that he need fear no syphilis. The seronegative phase of a primary infection, the time most important for diagnosis of a syphilis from the standpoint of cure, lasts from ten days to three or four weeks after the infection takes place. Only then does the Wassermann test begin to reveal evidence of positivity. Consequently, in those suspected cases where it has been impossible to find the spirocheta pallida with the dark-field, a Wassermann reaction should be taken every week until at least eight or ten weeks after the appearance of the suspected lesion. In this way only can the physician be sure of ruling out syphilis and saving himself the chagrin of having his supposedly well patient walk into his office some day with a generalized secondary eruption. On the other hand, in the first week or so after the appearance of the suspected lesion, the physician has the opportunity with the dark-field illuminator of making the diagnosis when it will be of most value to the patient's welfare. A positive diagnosis made then with early, adequate, continuous treatment assures the patient of a very high percentage of cure—probably as high as 95 or 96 per cent. Moreover, one negative dark-field is not enough. If there is any doubt, repeated examinations and repetition on succeeding days is in order. Nothing shows better the training of a physician than his method of handling a suspected lesion of the penis. He should always keep syphilis in mind, yet never institute treatment until his clinical judgment, substantiated by dark-field examination and Wassermann tests, has verified the diagnosis.

The draining lymph nodes in the groin may also be helpful, at least confirmatory, of the diagnosis. In the case of a syphilitic primary the nodes are usually enlarged, hard, discrete, i. e., separated one from another, and show no particular tenderness. Moreover, they exhibit no tendency to break down unless secondarily infected.

Too much emphasis cannot be laid on the importance of early diagnosis in syphilis. A week's specific treatment in the seronegative phase of the disease is worth as much as a month or more in the secondary stage. If there be any doubt in the physician's mind as to the diagnosis, let him divide the burden. Call in an expert to assume part of the weighty responsibility, for after all there is a grave public health situation in this dilemma.

Public Health Responsibility of the Physician Treating Syphilis

Given a suspected case of early syphilis there is a great responsibility resting on his medical advisor. Sexual contacts and in fact all physical contacts like kissing must cease. If possible, the source of the infection should be found and in some way or other put under specific treatment. Moreover, any possible contacts of the patient with their possibility of a future syphilis should be checked into. Smith, at the University of Virginia, has demonstrated how much can be done along this line by simple message by mouth and by postcard. When one realizes all the possible elements entering into syphilis—expense, infection of others, cardiovascular damage, central nervous system involvement, with possible insanity or locomotor ataxia, burden on the State, and transfer to the next generation—truly the doctor who assumes the care of an early syphilitic is taking on a large job. It amounts to much more than the simple giving of some intravenous and intramuscular injections. Not that we wish to minimize the treatment, however, for, after all, this is the base line by which we must measure our entire effort to eliminate the disease.

Treatment of the Syphilitic

The exact action of mercury, of bismuth and of arsenic on the organism of syphilis

is not known. In part, it is a specific action, but there are other elements entering into the picture. It is probable that the preparations cause some type of change in the tissues that enables them to build up a greater resistance to the disease. Ehrlich's idea was to give a large enough dose of his 606 (arsephenamine) at one dose to cure the disease. This hoped-for effect of course was not achieved, for it was found that the body could not safely stand a sufficient dosage for this purpose.

The efficiency of the respective metallic salts has been worked out from study of the rapidity of disappearance of the spirocheta pallida from inoculation chancres of rabbits' testes after specific therapy. As a definite ratio of the effect of the drug against the spirochetes, one employs what is known as the therapeutic ratio. This consists, roughly, of the maximal tolerated dose of the drug over the minimal effective dose. Thus the arsephenamines have a ratio of around 20 to 30:1. With bismuth preparations this ratio is around 30:1, when the drug is employed intramuscularly. On the other hand, the chemotherapeutic ratio for mercury is around 2:1 or 1:1. This explains why so little mercury is being used today. The physician prefers arsenic and bismuth because of their higher chemotherapeutic ratio and also because of the freedom from pain of intramuscular injections of the latter.

Preferred Mode of Attack to Treating Syphilis

Fournier, one of the great syphilographers of the past generation, instituted the so-called intermittent treatment of syphilis. He went on the theory that mercury was a potent remedy, toxic to the liver, bones, gastro-intestinal tract and kidneys. Therefore, the patient undergoing treatment should have purposeful rest periods from time to time. Thus alternating periods of treatment and of rest were carried on for several years—the periods of treatment gradually being shortened and the rest periods lengthened.

It is to the credit of Almkvist in Europe, and almost simultaneously to the credit of Keidel and Moore in this country, that the disadvantages of the intermittent type of treatment of syphilis have been called to our attention. If it were possible to give syphilitic patients large enough doses of Arsephenamine and other heavy metals to cure them in one course of treatment there probably would be no schema necessary in treating syphilis. However, it must be realized that in syphilis we are dealing with a chronic infection due to an organism that, with our present remedies, only gradually disappears from the lymph nodes, skin and deeper structures. In fact, some men like Warthin claim they never entirely disappear; rather, that the disease is merely "arrested." At any rate, it is quite evident that in a situation comparable to this it would theoretically be unwise to treat the patient by an intermittent form of therapy. Grant that the organisms were checked by the arsenicals, the bismuth or even the mercury, would it not then stand to reason that if purposeful rest periods were instituted in the course of treatment, that during these periods, with the effect of the remedies removed, any viable organisms would once more start multiplying? Not only does this theoretically sound tangible, but in actual practice, the writings of Moore and of the Cooperative Clinical Group would indicate its actual probability. And a recent report by Stokes of the League of Nations investigations comparing the results of the Cooperative Clinical Group, using the continuous system of treatment of syphilis, as against the intermittent form of treatment employed by some of the large European Clinics, revealed a very favorable comparison for continuous treatment.

Instead of giving the patient purposeful rest periods after a course of arsphenamine or bismuth or mercury, the treatment is alternated. Perhaps the patient with an early syphilis will receive a course of arsenical injections, which is followed at once by a course of intramuscular bismuth injections. This in turn is followed by another course of arsenical treatment. In this manner, by alternating the drugs, the dis-

SCHEMA OF TREATMENT FOR EARLY SYPHILIS

Day or Week	Neoarsphenamine	Interim Treatment	Blood Wassermann	Comment
Day 1	0.3 to 0.45		1	Arsphenamine may be used—maximum 0.3 female to 0.4 male. Treponemata disappear from lesions 24 to 48 hours. Wassermann often negative by end of first course. Do a lumbar puncture in this course of treatment. The first bismuth is given with the last arsenical injection.
5	0.45 to 0.6			
10	0.45 to 0.6			
Weeks 3	0.6			
4	0.6			
5	0.6			
6	0.6			
7	0.6			
8	0.6			
9	0.6			
10	0.6	Bismuth salicylate 0.2. 6 doses, 1 each week.	1	
11				
12				
13				
14				
15				Wassermann first day and fifth day after first arsenical. Provocative Wassermann.
16	0.6			
17	0.6			
18	0.6			
19	0.6			
20	0.6			
21	0.6			
22	0.6			
23	0.6			
24	0.6			
25	0.6	Bismuth salicylate 0.2. 8 doses, 1 each week.	1	
26 to 33				
34	0.6		1	Provocative Wassermann.
35	0.6			
36	0.6			
37	0.6			
38	0.6			
39	0.6			
40	0.6			
41	0.6			
42	0.6			
43	0.6			
44 to 54		Bismuth salicylate 0.2. 10 injections, 1 each week.	1	Patients with seronegative primary syphilis, cease treatment if Wassermann always negative, after this course of bismuth.
55	0.6		1	Provocative Wassermann.
56	0.6			
57	0.6			
58	0.6			
59	0.6			
60	0.6			
61	0.6			
62	0.6			
63	0.6			
64	0.6		1	
65 to 74		Bismuth salicylate 0.2. 10 injections, 1 each week.	1	Seropositive primary and secondary syphilis, if all signs and symptoms negative 1 year, may be put on probation.
75 to 123		No treatment.		Blood Wassermann every month or two.
123		Complete check up; Physical Examination; Lumbar Puncture. Fluoroscopic examination of cardiovascular stripe. If both lumbar punctures are negative, no repetition required. Physical examination every year and Wassermann, for a few years, every six months, and thereafter along with physical examination.		

ease is kept under continuous attacks with some form or other of specific therapy.

Moreover, another argument in favor of the continuous type of therapy is the fact that far less relapses of syphilis are seen when this mode of treatment has been employed. Relapses generally come early in the course of syphilis; they may be cutaneous, mucocutaneous, meningeal, e. g., a paralysis of the third nerve, visceral, e. g., early aortitis or merely a serologic relapse from negative to positive reaction on the blood. Relapses are serious for they not only indicate that the patient's syphilis is not responding well to treatment, but many times these relapses are of a contagious type with all the sequelae concerned. It is found that there are far less so-called Wassermann-fast cases of syphilis where continuous treatment of the disease is instituted right at its inception and continued until the patient has received the desired amount of treatment.

Treatment of a Case of Early Syphilis

What do we mean by the desired amount of treatment? It is true that cases differ, that various exigencies may come up in the course of following an early case of syphilis. Perhaps the patient does not stand arsenicals well, or perhaps his kidneys are prone to show signs of irritation. In the average uncomplicated case, however, the Cooperative Clinical Group have found that from 30 to 40 injections of an arsenical, giving them in courses of 8 to 10 injections, and alternated between with a like amount of bismuth or perhaps mercury occasionally, gave best assurance of taking care of the patient's disease. The Group feel that treatment should be kept up for at least one year after all symptoms of the disease, including positive serology, have been eradicated. Moreover, the patient should have a negative lumbar puncture and examination of his heart and aorta should show no evidence of syphilis.

We are submitting a schema of treatment which may be employed with the average uncomplicated case of early syphilis.

This schema is designed for early syphilis, especially in the period of time where it is of most danger to the public. It would hardly be the scope of this paper to consider later stages, for after all it is written with the idea of discussing a public campaign against syphilis, a national menace. It is also the idea of the paper to discuss the part the physician should play in the campaign and how he could best direct his efforts both in the campaign and in handling his early cases of syphilis in the contagious period.

Summary

1. Syphilis is one of the great killing diseases, and it is time the public and the medical profession jointly take measures to combat it.

2. Since so many of its victims are innocent wives and children, is it not time to end the "hush-hush" campaign in regard to syphilis and coldly consider it as any other contagious disease—typhoid fever, tuberculosis, infantile paralysis, etc.?

3. One measure that would greatly assist in overcoming syphilis would be the compulsory health examination of all applicants before marriage—this to include a routine Wassermann test.

4. The physician can best achieve his part in controlling syphilis through raising his "index of suspicion" in regard to the disease. He should take routine Wassermanns on all new cases—at least three times on every pregnant woman, and a Wassermann test should be taken on every child at birth, at the age of one or two and at school age. The yearly physical examination including Wassermann test, should be practiced by the profession on all patients.

5. The physician should have furnished to him a formal course on syphilis in his medical curriculum.

6. The best treatment of early syphilis will be achieved by alternating but continuous attacks with courses of arsenicals and bismuth or mercury, of at least 30 to 40 injections of each.

7. A course of treatment is submitted.

PROTAMINE INSULINATE AT COLORADO GENERAL HOSPITAL*

CLINICAL AND EXPERIMENTAL INVESTIGATIONS

JAMES J. WARING, M.D.; BERNARD B. LONGWELL, Ph.D., and ABE RAVIN, M.D.
DENVER

SYNOPSIS

I. Introduction.
II. Chemistry and Physiology of Insulin and Protamine Insulinate.
III. Review of Literature on the Use of Protamine Insulinate.
IV. Comparative Effects of Old Insulin and Protamine Insulinate in Animals.
V. Clinical Experiences with Protamine Insulinate at the Colorado General Hospital.
VI. Conclusions.

The development of a new insulin compound called protamine insulinate by Hagedorn of Denmark has given renewed impetus to efforts, heretofore apparently at a standstill, to improve this important remedy in the treatment of diabetes mellitus.

Kerr[1], Best et al. have pointed out the interesting fact that purification of insulin has not improved it as a therapeutic agent because the purer product is apparently absorbed more rapidly and therefore has a shortened physiological action. Priscilla White[2] says: "This rapid absorption of insulin is the fundamental defect of our present therapy." Wilder[3] recently said, "It is not unlikely that the insulin of eight or ten years ago was slower in its action than the highly purified water soluble insulin with which the manufacturers recently have been supplying us." "The insulin as it is supplied to us at the present time is as pure as granulated sugar. It is rapidly absorbed and its effect thus is more explosive. The insulin of a few years ago possibly contained zinc, perhaps other metals, as contaminants, and these metals delayed its action."

The essential purposes of the many varied experiments with oral, rectal, vaginal, intravenous and subcutaneous administration of insulin have been (1) to discover a more convenient method of administration, (2) to determine the advantages of delayed absorption. Solutions of insulin have been sprayed or dropped into the nose; powdered insulin has been insufflated into the nasopharynx, inhaled with air containing 6 per cent carbon dioxide; insulin has been instilled into the external ear and into the conjunctival sac; skin inunctions have been tried; insulin has been injected mixed with semi-solid fats or oils, with lecithin and cholesterol, with gum arabic, with pituitrin and with adrenalin; but, all this work has merely confirmed the statement made by Woodyatt[4] in 1922, the first year that insulin was made available, that positive effects can be obtained with subcutaneous and intravenous injections, very weak, doubtful, or frankly negative results with the others. More important results have come from combinations of metallic salts of zinc and calcium with protamine insulinate and the experiments of Maxwell[5] and Bischoff[6,7,8] with tannic acid and ferric chloride, which indicate the great clinical value of slow absorption and consequent prolonged physiological action after subcutaneous injection.

Administration of insulin by mouth is useless because insulin is a protein which, like other proteins, is digested in the stomach and intestine. As Harrop has pointed out, attempts to neutralize the destructive action of the digestive juices by (1) alkalinization, (2) ingestion with alcohol, (3) the use of anti-enzymatic preparations, (4) coating insulin with enzyme resistant materials, have proved fruitless. Even if the protein hormone escaped digestion in the stomach, experiments show that absorption from the intestine would still be unreliable.

Small frequent doses of insulin are more effective than larger doses because (1) larger amounts of insulin are lost by excretion through the kidneys when big doses are

*From the departments of Medicine and Biochemistry, University of Colorado, School of Medicine and Hospitals. Eli Lilly & Company generously supplied the protamine insulinate used in this work. Our thanks are due to the Research Fellows of the Department of Biochemistry of the University of Colorado School of Medicine for making the numerous blood sugar determinations and to the internes on Medicine and to Miss Prather, Dietician, for supervision of the cases in the hospital.

given and (2) enzymes always present in the tissues destroy and therefore waste a large portion of a big dose. Hagedorn also comments on the better utilization of insulin administered in a number of small doses instead of one larger dose.

Attention is now concentrated on clinical trials of chemical compounds of certain protein precipitants with insulin which are slowly absorbed and have a duration of physiological effect several times that of "old insulin."

The Chemistry and Physiology of Insulin

The active principle of the hormone of the islands of Langerhans is a protein, first isolated as a crystalline chemical entity by Abel[9,10] in 1926. Insulin[11] shows the following chemical properties of a typical protein: (1) easy solubility in dilute acid or alkali, (2) precipitation from solution by protein precipitants, (3) denaturing by boiling or strong acid, (4) positive color reactions (biuret, Millon, Pauly, ninhydrin, xanthoproteic), (5) specific reactions for arginine,

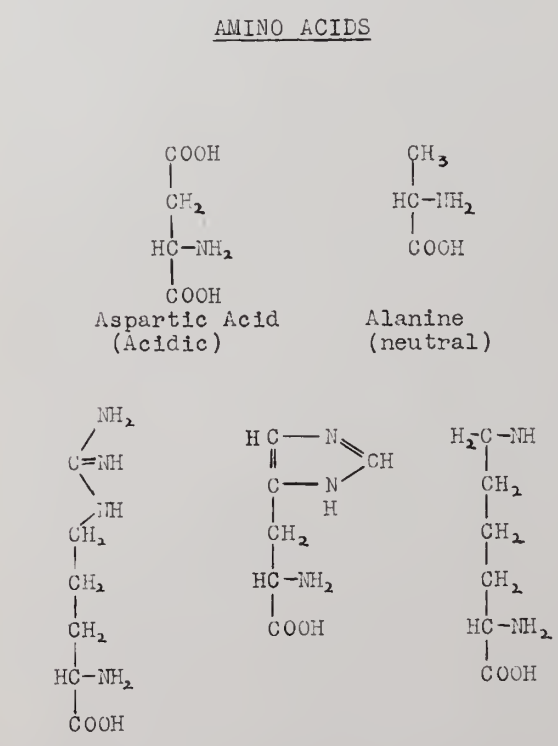


Fig. 1.

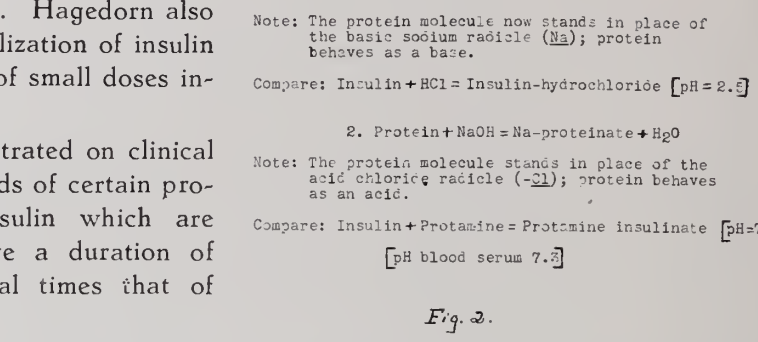


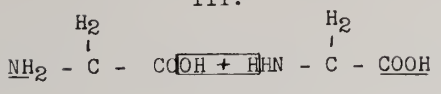
Fig. 2.

cystine, disulfide linkage and tyrosine. Finally, the following seven amino acids, leucine, glutamic acid, tyrosine, cystine, histidine, arginine, and lysine have been identified and proved to compose 88 per cent of the constituents of the insulin molecule. The protein character of insulin deserves emphasis because it explains (1) the allergic reactions which on rare occasions follow its administration, (2) the failures of oral administration as due to digestion in the stomach and the bowel, (3) the ability (Fig. 1 and 2) of the hormone to combine on the one hand with an acid as easily soluble and quickly absorbed insulin-hydrochloride, the well-known commercial preparation, and on the other hand with a base protamine as protamine insulinate, a new compound devised by Hagedorn of Denmark for the treatment of diabetes mellitus (Figs. 3, 4 and 5).

Protamines[12] are simple proteins found in the ripe sperm cells of certain fish. Hagedorn discovered and uses a mono-protamine found in the sperm of the rainbow trout because its compound with insulin shows the lowest known solubility in serum. The marked basic character of these compounds due to the presence of varying amounts of the three basic units arginine, histidine and lysine enables the protamines to combine readily with the acid radicles of the insulin protein molecule (Figs. 5 and 6). Time will tell whether or not the addition of another protein molecule to the insulin grouping will increase the number of allergic reactions. Thus far, Joslin records one allergic reaction definitely proved to

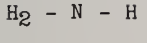
PROTEIN STRUCTURE

III.



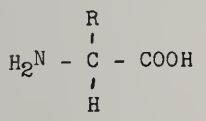
I.

Ammonia



II.

Amino Acid
General Structure



IV.

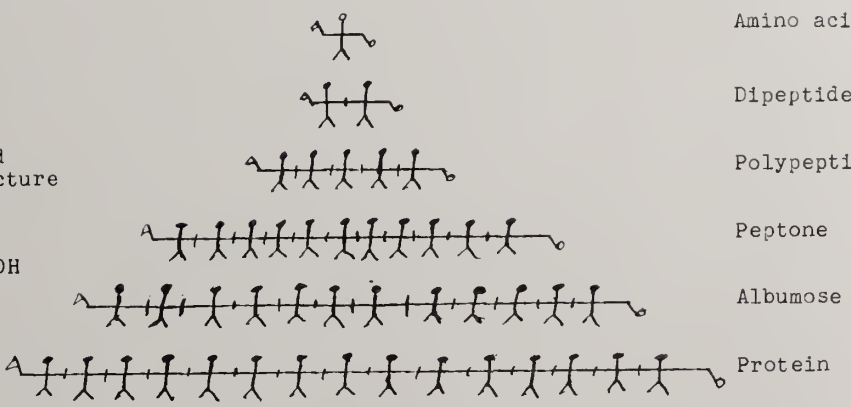


Fig. 3.

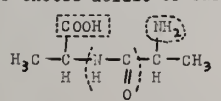
I. Formula for ammonia; II. General structure of an amino acid with a free amino (NH_2) group at one end and a carboxyl (COOH) group at the other; III. Formula illustrating linkage of one amino acid with another by combination of an amino group with a carboxyl group; note that after the combination the dipeptide still retains a free amino group at one end and a carboxyl group at the other; IV. Diagram to illustrate the evolution of complex protein molecules from multiple linkages.

be due to protamine. None have occurred at the Colorado General Hospital.

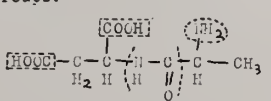
Thompson[13] (1900) says the protamines injected intravenously cause a rapid fall in blood pressure and a depression of respiration due partly to direct action on the voluntary respiratory musculature. A lethal dose of clupein (protamine from sperm of herring) intravenously lies between 0.15 and 0.18 grams for a 10 kilogram dog. A lethal dose of sturin (protamine from sturgeon) lies between 0.20 and 0.25 grams for a dog of the same weight. The reaction from a non-lethal dose is over in a few minutes. Intravenous injection causes a marked delay in the blood coagulation time, the coagulation being delayed for as much as thirty-six hours. Leucocytes are rapidly destroyed by intravenous injection of protamines. The diamino acids alone did not produce these effects nor did a mixture of all the hydrolytic products of the protamine. Thompson concludes that the toxic action of protamine is due to the specific grouping of the molecule.†

DIPEPTIDES

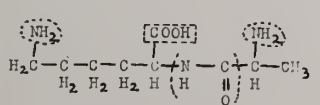
These formulae represent the linkage in the protein molecule and the effect on chemical properties of excess acidic or basic groups.



Alanyl-alanine
(neutral)



Alanyl- aspartic acid
(acidic)



Alanyl-lysine
(basic)

Carboxyl group --- Acidic

Amino group --- Basic

( ) Peptide linkage

Fig. 4.

†The quantity of protamine administered clinically as protamine insulinate is extremely small, only 0.1 mg. per ten units of insulin. Our observations on diabetics indicate no depressing effect upon the bone marrow.

AMINO ACIDS

Amino acids (amino, NH_2) (carboxyl, COOH)

- I. Basic amino acids — Arginine, Histidine, Lysine
  - 2 or more basic (amino, NH_2) groups to one acid (carboxyl, COOH) group.
- II. Neutral amino acids — Aromatic, benzene ring; Aliphatic chains
  - one basic (amino, NH_2) group to one acid (carboxyl, COOH) group.
- III. Acid amino acids.
  - 2 acid (carboxyl) groups to one basic (amino) group.

Fig. 5.

General classification of amino acids. Note that arginine, histidine and lysine, important constituents of the insulin molecule as well as the protamine molecule, are basic.

PROTEINS

Protein Classification

I. Simple Proteins
II. Conjugated Proteins
III. Derived Proteins

Simple Proteins

1. Protamines
2. Histones
3. Glutelins
4. Prolamines
5. Albuminoids
6. Albumins
7. Globulins

Protamine Classification

I. Mono-protamines - These contain arginine as the only basic constituent.

II. Di-protamines - These contain two (2) basic constituents, one of which is always arginine, the other may be either histidine or lysine.

III. Tri-protamines - These contain arginine, histidine and lysine

Molecular Weights

Protamine (clupein)	11,000
Egg albumen	17,000
Serum albumen	46,000
Serum globulin	67,000
Hemoglobin	64,000

Fig. 6.

Protein and Protamine Classification.

Protamine insulinate, insulin protaminate, insulin protamine, Danish "insulin retard" or slow insulin is prepared by mixing 4 c.c. of a special U-50 "Iletin" with exactly one c.c. of a buffered protamine solution. Each cubic centimeter of the resulting mixture contains forty units of "Iletin" combined with protamine. It is designed obviously for subcutaneous use only. It is injected as a fine suspension the minimum solubility of which occurs at the hydrogen-ion concentration of the body fluids. This suspension is slowly broken down in the tissues with a gradual release of active insulin. The point of minimum solubility of protamine insulinate is pH 7.3, of insulin-hydrochloride pH 5.5-5.7. In animals this preparation increases two to threefold the duration of the curve of lowering of the blood sugar. In January of this year, Hagedorn estimated that the clinical effect of protamine insulinate was "roughly about twice as long as that of ordinary insulin." Subsequent reports indicate even a more prolonged action. In May, Wilder said: "We have demonstrated clearly that in the average case the action of insulin protaminate extends into the second and third day, as a cumulative effect." This prolongation of influence of protamine insulinate is further indicated by the clinical observation noted originally by Krarup[14] (1935), by subsequent investigators and by ourselves that it takes several days to get the patient under the full influence of the new preparation.

Ocular proof of the slow absorption of protamine insulinate is found in the experimental work of Beecher and Krogh[15], who, with the aid of the Sandison-Clark chamber inserted in the rabbits ear, studied directly the rate and method of absorption of stained and unstained insulin precipitates. Ordinary insulin precipitated at its iso-electric point disappeared through the small lymphatics in 45 minutes, protamine insulinate disappeared from the lymphatics in about five hours.

Three other new insulin preparations, protamine insulinate with zinc, protamine insulinate with calcium and commercial crystalline insulin, require some comment, although at the Colorado General Hospital we are just entering upon the period of experimental and clinical study of all three. In 1934, Maxwell[5] showed that various protein precipitants and metallic salts (zinc) markedly retard the rate of absorption of hypophyseal gonadotropic extracts. Since the physical and chemical characteristics of the protein aggregate associated with the hypophyseal gonadotropic principle in some respects resemble that of the insulin complex, it seemed possible that compounds effective for the one might prove effective also in retarding the absorption of insulin. In 1935, Maxwell and Bischoff[6] added Lilly's "Iletin" U-20 to a dilute aqueous solution of ferric chloride previously neutralized to the point of precipitation. The pH of the solution after the addition ranged between 4.5 and 6. This mixture was then diluted to contain two rabbit units of insulin and 4 mg. of ferric chloride per c.c. Control animals, adult rabbits and rats, were treated with a similar dilution of insulin alone. The addition of basic ferric chloride to the insulin produced a greater fall in the blood sugar curve at three hours and a much longer duration of the hypoglycemia. In 1936 Bischoff[8] showed that tannic acid by decreasing the solubility of insulin and surrounding proteins prolongs the liberation of insulin given intramuscularly, this prolongation being increased by tannic acid in excess of the amount necessary to combine with the insulin.

In 1926 Lutz[16] found that the pancreas contained appreciable quantities of zinc. In the same year Bertrand[11] showed that the pancreas contained nickel and cobalt. Scott[17] (1934) found that zinc is present in the crystalline insulin preparation of Abel, in the crystals obtained by the saponin procedure and also in all commercial samples of insulin. It was at first thought that these metals combined with the foreign proteins in the crude insulin preparation leaving insulin free to crystallize. Experiments however have shown that zinc adheres to insulin protein precipitated at the iso-electric

point. Scott therefore thinks that insulin is a zinc salt of a protein, and that since this metal forms complex salts with amines it is probable that protamine combines with insulin through this metal. Since the pancreas is apparently a rich storehouse for both the protamine spermine and zinc, it is possible that this metal and spermine may be important factors in the normal physiological action of insulin. Following the implications of this work and that of Hagedorn and his associates, Scott and Fisher[13] (1936) proved that the addition of 1 mg. of zinc as zinc chloride per 500 units of insulin before combination with the protamine resulted in more prolonged insulin action than was observed when the protamine insulin without added zinc was injected. The small amounts of calcium and zinc are added to the special U-50 "Iletin" by the manufacturer and not to the buffered protamine solution. The blood sugar curves after these preparations are somewhat different, the calcium preparation releases its insulin a little faster. Both are more stable preparations than protamine insulinate. Crystalline insulin, a stable solution of crystalline insulin, prepared by a special process, is said to lower the blood sugar more gradually, maintain the lower blood sugar level for a longer time and permit a more gradual return to the fasting level. In speed and duration of action it apparently occupies a position between old insulin and protamine insulinate.

Review of Literature on the Use of Protamine Insulinate

In June, 1935, Hagedorn[10] presented a paper at the Nordisk Congress for Internal Medicine at Copenhagen on the treatment of diabetes mellitus with an insulin preparation made by combining insulin with a newly discovered protamine isolated from the ripe sperm cells of the rainbow trout. The early clinical work of the Danish group covering the treatment of 102 patients in two and one-half years is summarized in Krarup's monograph[14] (1935).

In January, 1936, Hagedorn[20] et al. published a paper on the use of protamine insulinate in the Journal of the American Medical Association. In this paper Hagedorn pointed out that he had discovered that it was possible to combine insulin with a basic group in such fashion that the combination would have its iso-electric zone, that is its point of least solubility, nearer to the pH of the tissue fluids than that of the standard commercial insulin. After considerable experimentation with different groups of substances Hagedorn found that the mono-protamine compounds appeared chemically most suitable for clinical trial. Protamine solution properly buffered is combined with a special insulin preparation producing a fine flocculent precipitate or suspension which is injected in a measured quantity comparable to standard insulin and is broken down slowly in the tissues with gradual release of active insulin. Hagedorn found that it was possible to reduce the number of injections daily, to reduce or suppress glycosuria, to diminish acidosis as measured by the urinary ammonia excretion and also, finally, to reduce the incidence and severity of hypoglycemic attacks. Hagedorn noted that the injection was painless and that local and protein reactions were absent. He emphasized especially the good results in cases complicated by neuritis and the marked improvement in young severe diabetics with enlargement of the liver.

Hagedorn controlled his work by checking the capillary blood sugar five times daily: at 7 a. m., at 11 a. m., at 2 p. m., at 5 p: m. and at 10 p. m. He gave old insulin in the morning and protamine insulinate in the evening. In some cases he found that it was possible to control the glycosuria with only one dose of protamine insulinate daily.

Hagedorn's paper was followed in the same number of the Journal with a report by Howard F. Root[21], Priscilla White, et al. on "Clinical Experience with Protamine Insulinate" at the George F. Baker Clinic of the New England Deaconess Hospital. This report covered therapeutic studies on fifteen patients. The blood sugar was checked

with the same care as in Hagedorn's work, but the division of carbohydrate between the three meals was different. In Hagedorn's clinic at the Steno Memorial Hospital, Copenhagen, the total daily carbohydrate was divided between the three meals as follows: 2/5-2/5-1/5; at the New England Deaconess Hospital the division was 1/5-2/5-2/5. Root and his co-workers think that use of two types of insulin seems desirable; old insulin for the morning and new insulin for the evening. They note that the action of the new insulin is slow and gradual, that wide fluctuations in the blood sugar level are less apt to occur and that hypoglycemic reactions can be largely avoided.

In May of this year Joslin[22], Root, et al. report on the use of protamine insulinate in 100 diabetics during the previous eight months. A very significant statement appears in this paper: "No patient who began it has died, developed diabetic coma or acidosis, or as a matter of fact, *de novo* any complication common to diabetics, such as lesions of the legs or carbuncles." The authors have been much impressed with the effectiveness of protamine insulinate in fresh cases of diabetes. In one normal nurse they found that the blood sugar was still falling at the end of ten hours after the injection. Other observations indicated that in larger dosage the blood sugar lowering action was still demonstrable at twenty-four hours or longer. The injections were painless, never followed by abscesses nor by areas of fatty atrophy. In a few instances they attempted to give the old insulin and the new insulin through one needle by the use of two separate syringes but they found this technic impractical. They observed that protamine insulinate acts so slowly that its full influence may not become manifest for five or six days after the patient has been put on the new preparation. The patients seem to need fewer protamine insulinate units and fewer injections. The largest single dose recorded by them was 120 units of the protamine insulinate with 120 units of the old insulin given simultaneously, administered with satisfactory results, to a woman aged 36, who for the previous six months had required 500 units of old insulin in four doses daily. Of eighty-eight cases treated by Joslin et al., sixty-five took over 150 gm. of carbohydrate daily and only twenty-three less than 150. The reduction in the number of injections daily was 25 per cent. If and when, for any reason, it proved necessary to stop the protamine insulinate and to return to the old insulin the number of units was reduced approximately one-fourth to avoid the possibility of reactions. Their conclusions may be summarized as follows:

(1) Protamine insulinate reduces the danger of insulin reactions. However, it is characteristic of the marked hypoglycemia due to protamine insulinate that a series of reactions is apt to occur. Greater frequency of severe headaches during hypoglycemia was not noted.

(2) The new preparation permits a marked reduction in the number of daily injections.

(3) Enlargement of the liver appears to respond very well to the use of protamine insulinate.

(4) Lipodystrophy may be avoided by the reduced number of injections and the lessened acidity of the preparation.

(5) Protamine insulinate is indicated, especially in fresh diabetics, in cases with high fasting sugar values and in insulin-sensitive cases, that is, cases with frequent reactions.

In May, again in the Journal, Sprague[23] et al. reported on "Clinical Observation with Insulin Protamine Compound" in twenty patients at the Mayo Clinic. In most cases with the use of a single dose of protamine insulinate the authors have been able to obtain better control of glycosuria and a more stable level of blood sugar than previously had been possible with multiple doses of the old insulin. They found very successful the use of a single morning dose of protamine insulinate with or without a

smaller supplementary dose of old insulin injected simultaneously but at a separate site. They used diets that contained 160-170 gm. of carbohydrate with protein 70 gm. and fat sufficient to bring the calories to a number that would represent 50 per cent more calories than the patient would expend at rest, which probably meant from 125-225 gm. of fat daily. They prescribed three meals with a 1/5-2/5-2/5 division of carbohydrate. Use of the new preparation made it possible to reduce the total daily number of units of insulin. The reactions with protamine insulinate were fewer and less violent, but their onset was more insidious, and once developed they were more persistent and more likely to recur after treatment. A number of the patients stated that they felt very much better after starting treatment with the new preparation. The authors are definitely of the opinion that protamine insulinate should not be mixed in the same syringe or injected into the same site with the old insulin. (Our experience with a mixture of this sort will be referred to later in this article.)

Lawrence and Archer[24], in a paper in the British Medical Journal on "Some Experiments With Protamine Insulinate," believe the new preparation does away with dangerous alternations between hypoglycemia and clinical hyperglycemia with ketosis. They tested the duration of action of a moderate dose of protamine insulinate in two severe young diabetics. In one case, a girl of 11 years, 30-40 units of old insulin kept the blood sugar down to normal for four hours but it always rose to 300-400 mg. in eight to ten hours after the injection. On the other hand, in the same case 36 units of protamine insulinate kept the blood sugar low, at slightly hypoglycemic levels for twenty-two hours. In another case, a girl of 22 years with severe diabetes, 120 units of protamine insulinate kept the blood sugar low for fifty-five and one-half hours. Glycosuria did not appear until fifty-seven hours after the injection but ketonuria appeared at thirty-seven hours. In their opinion protamine insulinate could act for more than two days. They tested the speed of action of protamine insulinate on a patient with a high fasting blood sugar and in the same patient studied control of hyperglycemia after the ingestion of 50 gms. of sugar. Old insulin dropped the blood sugar more quickly and controlled the post-absorptive rise better than did protamine insulinate. Also, the old insulin removed more rapidly and more completely the ketosis present at the beginning of the experiment. The protamine insulinate removed the ketosis more slowly and only partially. Lawrence and Archer think the protamine insulinate deals well with endogenous sugar but poorly controls ingested sugar. Protamine insulinate seemed much less likely to cause hypoglycemia at the same or lower concentrations of blood sugar because the rapidity of the fall of the blood sugar as well as the low point reached are important factors in the production of the symptoms of hypoglycemia.

In a recent number of the Journal, F. M. Allen[25] called attention to some difficulties arising in the use of protamine insulinate. Allen found it impossible with the new preparation to control the fluctuations of the blood sugar in a Jewish man 38 years of age with diabetes of over twenty years' standing. Attempts to control the blood sugar were unsuccessful with the use of protamine insulinate alone in any quantities and with any timing of doses. Combinations of old and new insulin were also unsatisfactory. Instead of smoother blood sugar curves, the fluctuations of hyperglycemia and hypoglycemia were more violent with the new insulin than with the old. The patient had severe reactions without warning, sometimes requiring large amounts of dextrose by vein. Allen seems to think that the present form of protamine insulinate is most fully adapted to the more moderate grades of diabetes; on the other hand, it has not settled the problem of the control of sugar in the most severe and difficult cases in which old insulin must still be used either partially or wholly. He emphasizes

the importance of adapting the new insulin to meet individual needs.

Bennett and Gill[26], in an August number of the Lancet, in a paper on the "Treatment of Severe Diabetes in Children With Protamine Insulinate," record the very happy results in the treatment of four children with severe diabetes. They stated that clinically the children were much improved, less irritable and less nervous, that the injections were less painful, that fewer injections were required and that the reactions in general were both milder and less frequent.

Per Hanssen[27], in an article on "Enlargement of the Liver in Diabetes Mellitus," states that at Steno Memorial Hospital in Copenhagen, forty-four diabetics under 20 years of age had been treated over a period of two and one-half years. Of these forty-four, twelve had enlarged livers. The enlargement of the liver in all of these cases disappeared under treatment with protamine insulinate.

Joslin[28], in the August number of Annals of Internal Medicine, again expresses his enthusiasm for protamine insulinate and hails what he calls "The Hagedorn era." He thinks that the new insulin is simpler and safer and that "protamine insulinate cannot help raising the standards of diabetic treatment throughout the world." Joslin says that Best of Toronto compared the effects of ordinary insulin and protamine insulinate given to a depancreatized dog. With one dose of old insulin the dog excreted 25 gm. of glucose in twenty-four hours; with one dose of protamine insulinate the same dog excreted only one gram of glucose. With the old insulin the blood sugar after eight hours had begun to rise to high levels. After the protamine insulinate it remained practically normal for twenty-four hours. Joslin records only one marked allergic reaction proved to be due to the protamine. Only once did he have to give glucose in the vein to control a hypoglycemic reaction. Reactions have appeared more than fourteen hours after a dose and several times with children in the morning before the morning dose of insulin. He thinks that reactions are less apt to occur with a correspondingly low blood sugar with protamine insulinate than with old insulin. The reactions are usually mild and occur with warning, but occasionally are quite severe and prolonged. Joslin's diet was 150-175 gm. carbohydrate, 75 gm. protein and 100 gm. fat. The Hagedorn diet averaged 110 carbohydrate, 73 protein, and 161 fat. This paper of Joslin's was read at Detroit in March and covers the treatment of eighty patients since the preceding July. Of these eighty, only two have asked to be returned to old insulin.

In another paper in the August number of the Canadian Medical Association Journal Rabinowitch[29], Fowler and Corcoran say that protamine insulinate is most valuable to control the disease in "the insulin waster." They state that these patients have glycosuria almost continuously and that attempts to control this by increasing the dosage of insulin result in severe hypoglycemic reactions. On the other hand, failure to control the glycosuria exposes the patient to the many complications of uncontrolled diabetes. In their early experiments they used old insulin in the day, that is, in the morning and protamine insulinate at night. With this method they observed a number of very severe reactions, slow in onset and tending to recur in spite of treatment. These reactions are avoidable by using protamine insulinate only. When freshly prepared, a small but negligible amount of free insulin remains in the supernatant fluid. Also, an appreciable amount of old insulin is adsorbed apparently upon, rather than combined chemically with, the precipitate. An incomplete precipitation of insulin with protamine is indicated by the occasional difficulty in obtaining a watery, clear, supernatant fluid in spite of centrifuging the material at high speeds. In these instances a major portion of the protamine is in the precipitate but an appreciable amount still remains in colloidal suspension. Rabinowitch thinks that the preparation is best used after ageing five days

and is stable for months at room temperature. He tested material aged sixteen to one hundred thirty-six days and found no signs of deterioration. Identical effects were obtained with a mixture two days old as with one 115 days old. He was much impressed with the large amounts of the new preparation tolerated without reaction. He thinks that insulin is set free so slowly from protamine insulinate that reflex adrenalin release is able to control the hypoglycemia, but that this is not the case with the old insulin. Though deprived of smoking, foods and fluids of every kind except water for twelve hours before and twenty-four hours after the injection, perfectly normal persons were able to tolerate fifty units of protamine insulinate without severe reactions. This observation led Rabinowitch to the treatment of diabetes with a large single dose of protamine insulinate. In normal persons after the blood sugar dropped the blood pressure rose, indicating a reflex release of adrenalin. Rabinowitch notes the temporary glycosuria that occurs the first few days patients are put on the new preparation. Rabinowitch studied the plasma cholesterol and observed very little difference for the better in the milder cases but a definite reduction of the blood cholesterol in the more severe cases. He also notes, as did Per Hanssen, a decided reduction in fatty infiltration of the liver under the use of protamine insulinate. He checked the bilirubin content of the blood in a number of instances before and after treatment was started with protamine insulinate and found a definite reduction in the bilirubin content while the patients were taking protamine insulinate.

H. A. Freund[30] and S. Adler write on "The Effects of Standard, Protamine and Crystalline Insulin on Blood Sugar Levels" as studied on patients at the Harper Hospital in Detroit. The chief advantages of protamine insulinate as given by other investigators to date are (1) a rate of absorption slower than that of old insulin, (2) a more prolonged reducing effect on the blood sugar than old insulin, (3) less frequent and more mild hypoglycemic reactions, (4) less wide fluctuations of the blood sugar, (5) a reduction in the number of daily doses when protamine insulinate is used in the evening, (6) a single or double dose of protamine insulinate can be used in some cases to replace two or three doses of old insulin. The disadvantages recorded of protamine insulinate are (1) instability of the compound since it loses potency within three to four weeks after mixture, (2) the necessity in some instances of using two different types of insulin daily, (3) difficulties encountered by the less dexterous patient in handling the substance properly. This report covers the study of effects of these three preparations in two normal subjects and fifteen diabetic patients treated over a period of four months. Available dextrose of the diets was divided equally between the three meals. All patients were kept on each of three types of insulin for a period of ten to fourteen days before blood sugar determinations presented in the accompanying charts were used as bases for comparison. In some instances the twenty-four hour blood sugar curve could be controlled by the use of protamine insulinate twice daily. Crystalline insulin seemed more effective in this regard. Best results were obtained with the administration of old insulin in the morning and protamine insulinate or crystalline insulin in the evening. They note that the treatment of diabetic coma with protamine or crystalline insulin is thus far unsatisfactory and that standard insulin because of its more rapid action is to be preferred. They thought that the crystalline insulin compound had an action similar to protamine insulinate. It diminished the fluctuations in the blood sugar level and decreased the severity and frequency of the hypoglycemic reaction commonly seen with the use of the old standard insulin. Crystalline insulin was more rapid in the onset of its action and shorter in the duration of its effect on the blood sugar level in contrast with protamine insulinate. Its action on the blood sugar

level lasted for eight to nine hours and returned slowly to its normal level. Crystalline insulin was required in fewer doses compared with standard insulin and is similar to standard insulin in that it is a stable compound and may be dispensed in a single solution.

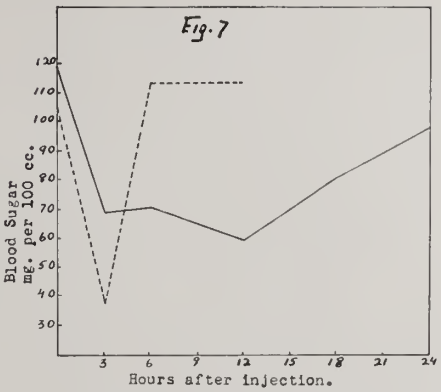
Kerr[1], Best et al. give a preliminary report on the treatment of twenty-five cases of diabetes with protamine insulinate. In the severe diabetic, the juvenile diabetic, and the so-called unstable diabetic, reactions due to hypoglycemia were much more frequent with old insulin than when protamine insulinate was used. In confirmation of the work of Scott[18] and Fisher, the addition of zinc to old insulin or to purified protamine insulinate solution greatly prolongs the blood sugar lowering effect. These authors emphasize especially the increase in the feeling of well-being of the patient on protamine insulinate.

Winnett[31] commented on the absence of reactions at night when protamine insulinate was being used. Since the experimental work of Longwell and Ravin shows no difference in the effects of ordinary insulin and protamine insulinate when given intravenously, his statement that protamine insulinate "cannot be used intravenously" should be modified to read "should not be used intravenously."

Comparative Effects of Old Insulin and Protamine Insulinate in Animals

The following experiments were carried out in order to supplement the meagre available information concerning the physiological action of protamine insulinate in animals. Old insulin or protamine insulinate (1.5 units per kilogram of body weight) was injected into albino rabbits subjected to a twenty-four hour fast before administration of the preparations to be tested.

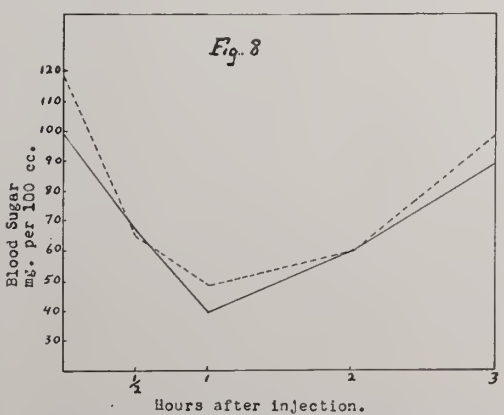
Fig. 7 depicts the effect of these two compounds after subcutaneous injection. The blood sugar curves illustrated are those of single, typical animals. The delayed and prolonged response of the blood sugar to the action of protamine insulinate is evident from these curves. The maximum effect of old insulin appeared at the third hour and



A comparison of the effect of subcutaneous injection of old insulin (---) and protamine insulinate (——) in rabbits

the blood sugar had returned to normal within six hours. In eight of the nine rabbits injected the maximum effect with protamine insulinate occurred from the sixth to the twelfth hour and the blood sugar lowering effect was still evident after twenty-four hours. The ninth animal showed a very marked response and died at the end of the sixth hour.

In order to determine further the mechanism of this delayed response after protamine insulinate, the effect of intravenous administration was studied. These experiments have been described in detail elsewhere* and will be summarized here. Typical curves of the results of this procedure are given in Fig. 8. The same animal was subjected to injections of both protamine insulinate and old insulin. It is evident that the action of these two compounds after intravenous administration does not differ. These data



A comparison of the effect of intravenous injection of old insulin (---) and protamine insulinata (——) in rabbits.

*In press, American Journal of Physiology.

Footnote:

further substantiate the fact that the prolonged action of protamine insulinate after subcutaneous injection is due to its delayed absorption from the site of injection.

Recent reports indicate that the addition of zinc salts to protamine insulinate further prolongs its action. This effect may be due to additional delay in the absorption of the compound or to some effect of zinc on the action of insulin itself. In the present experiments a small amount of zinc chloride was added to protamine insulinate and the material was injected intravenously. Twenty-four rabbits were treated with the preparation containing zinc with results that did not differ significantly from those obtained when protamine insulinate alone was injected. This similarity of the effects of protamine insulinate and protamine insulinate plus zinc after intravenous administration would indicate that the prolonged action of protamine insulinate plus zinc subcutaneously was due to delayed absorption and not to a fundamental alteration in the hormone itself produced by the addition of zinc.

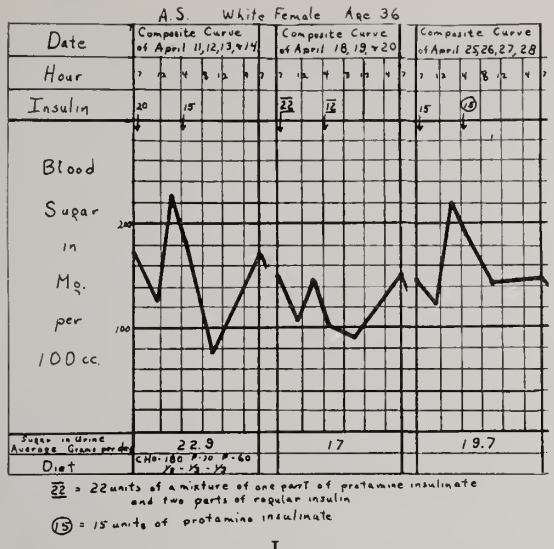
The mixture of two parts old insulin and one part protamine insulinate has been tested on experimental animals in conjunction with the clinical trials of this mixture. These experiments are not yet completed and no blood sugar determinations have been done. However, seven of eight animals which received three units per kilogram of the 2 to 1 mixture developed convulsions within a period of four hours, whereas only two of eight animals which received the same amount of protamine insulinate developed convulsions. These results indicate that the 2 to 1 mixture is more rapidly absorbed than protamine insulinate alone. More definite proof of this fact and also comparison of the durations of effects of the two preparations must await determination of the blood sugar following their injection.

Clinical Experiences

Since February, 1936, protamine insulinate has been used at the Colorado General Hospital on fourteen patients, seven males and seven females, ranging in ages from 13 to 51 years. Two patients were under observation too short a period to justify inclusion in this report. Our studies therefore cover only twelve patients, six males and six females. One patient, aged 46, died while under treatment but apparently not of diabetes. A complete report of this case with details of the postmortem examination will be given elsewhere. In only one patient, a boy of 13 years, did we have any difficulty in regulating the insulin dosage. It was found impossible to control his glycosuria without hypoglycemic reactions when protamine insulinate was given in a single morning dose or in combination with old insulin. Since his glycosuria was well controlled by two small doses of old insulin, we are inclined to think he was an inappropriate case for treatment with protamine insulinate. In the remaining eleven cases the treatment was a distinct success. In nearly every instance the patients were enthusiastic over the new preparation. This was doubtless due partly to the reduction in number of daily doses, partly to fewer hypoglycemic reactions but in the main to a feeling of well-being voluntarily commented upon.

All patients were under close supervision for a period of five days to many months before starting the protamine insulinate. The average diet was: carbohydrate 150-200 grams, protein 60-70 and fat 60-100. In the majority of cases the division of carbohydrate between the three meals was 1/5-2/5-2/5. In a few instances it was 1/3-1/3-1/3. In every case for a limited period the blood sugar was controlled by five daily venous blood sugar determinations and a twenty-four hour percentile urinary sugar estimation. Over one thousand venous blood sugar determinations were made. A few mild reactions occurred but only one severe reaction and that in a patient on the second morning after a dose of old insulin preceded by a dose of protamine insulinate the previous evening.

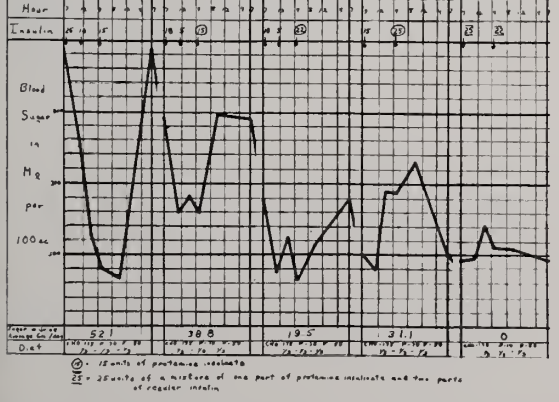
Two severe diabetics and two mild diabetics placed on a mixture of two parts old insulin and one part of protamine insulinate



I

Chart I. Composite curves of blood sugar values. In the middle period the patient was taking the mixture of one part protamine insulinate and two parts old insulin.

with the idea of securing in one injection the double advantage of quick effect and slow action did well (Chart I and II). Although our experience with this combination has been satisfactory, we have not continued its use since with the available material one cannot accurately estimate how much slow insulin and how much old insulin is being administered. In most lots



II

Chart II. Note the bouncing ball type of curve in the first period when the patient was taking old insulin. Wide fluctuations in blood sugar values are reduced by protamine insulinate, the fasting values are always lower. In the last period the very satisfactory curve was due to the mixture of protamine insulinate and old insulin. Compare Krarup's Fig. 73 reproduced here as Chart III.

In all charts, protamine insulinate dosage is indicated by a circle around number of units given, old insulin is marked in plain figures.

of protamine furnished by the manufacturer an excess of this material is supplied sufficient to precipitate not only the special U-50 insulin but also part of the old insulin which may be added in the preparation of the 2-1 mixture. Furthermore, the pH of each lot of special insulin is adjusted for the particular lot of protamine which accompanies it. Addition of old insulin having a different pH probably forms a mixture with its pH far from the ideal 7.2 which is assigned for the insulin and protamine compound.

We find that Krarup[11] had the same thought of trying to secure by a mixture of old insulin with protamine insulinate a preparation the effect of which was both quick and of long duration. He used a preparation which contained in the same volume twice as many units of insulin as are ordinarily used but one-half of the insulin was precipitated as a protamine compound. Krarup apparently treated with this combination, which he designated Insulin 341, only one or two patients, for he says the experiments were far too few and too short lived for any definite conclusions to be drawn from them. Nevertheless, Fig. 73 in his book, reproduced here as Chart III, shows very definitely that this mixture worked very happily in one case and that the average curves, when it was used in the morning and protamine insulin in the evening, were most satisfactory. In a general discussion of the treatment of diabetes mellitus with protamine insulinate Krarup makes this significant statement, "The meth od makes possible the preparation of protamine insulin compounds of variable solubility and, furthermore, by precipitating only part of the insulin as protamine insulinate, allows the making of preparations still containing free insulin." It is possible that a mixture of slow insulin and quick insulin retaining the physiological effectiveness of each unimpaired would have a field of useful application.

In one or two instances, the suspension of protamine insulinate, resulting from admixture of the buffered protamine solution with the special "Iletin," redissolved and

was therefore discarded. In one bottle of protamine insulinate subjected accidentally to high atmospheric temperature for a week, the fine suspension of hormone agglomerated and adhered to the wall of the bottle leaving a clear, inert, supernatant liquid. The precipitate carefully removed from the bottle and redissolved was physiologically active.

Before starting protamine insulinate, twelve patients were taking on the average each 39.8 units old insulin daily in 2.6 doses. After settled use of the protamine insulinate, these twelve patients on the average took daily 26 units of the protamine insulinate plus 9.3 units old insulin in 1.3 doses, a small reduction in total insulin but a marked diminution in the number of daily doses. The protamine insulinate immediately lowered the high fasting blood sugar level of the diabetic and decreased the wide fluctuations in the blood sugar values, in other words reduced both hyperglycehia and hypoglycemic reactions. All these points are well illustrated in the accompanying charts.

Although the number of our cases is too small to justify positive conclusions, it is our opinion that a morning dose of protamine insulinate of moderate size, plus a small dose of old insulin in rare instances, will control most of the moderately severe diabetics.

Hagedorn[20] et al. got best results with a dose of ordinary insulin in the morning after a dose of protamine insulinate in the evening. Root[21], White, et al. also preferred this method. On the other hand, Sprague[23], Blum, et al. found in most cases they were able with a single administration of the protamine insulinate in the morning to obtain better control of the glycosuria and a more stable level of blood sugar than had previously been possible with multiple doses of old insulin.

In fresh cases of diabetes Joslin[22], Root, et al. used protamine insulinate exclusively. When both old insulin and protamine insulinate were used they followed the suggestion of Hagedorn and gave old insulin in the morning and protamine insulinate in the evening. In a few instances they followed Wilder's[23,32] and Best's[1] plan of a

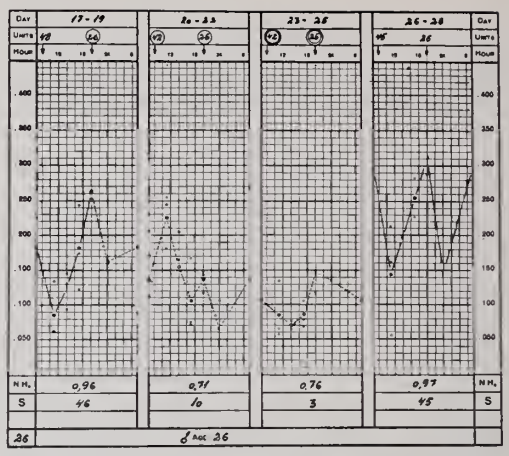
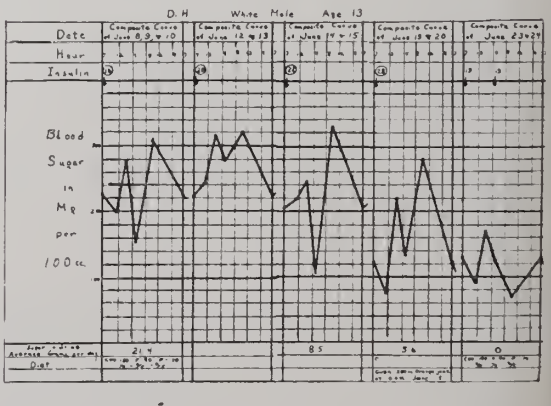


Fig. 73. Average curves. — Ordinary protamine insulinate in the evening only in the first period; both morning and evening in the second period; Insulin 341 (combined preparation) in the morning and Insulin 340 (particularly slow working) in the evening in the third period; ordinary insulin in the fourth period. (See also Fig. 72).

III

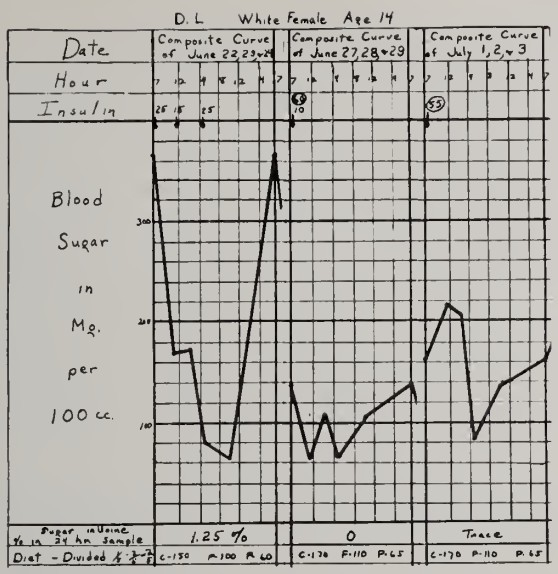
Chart III. Taken from Krarup's monograph to show satisfactory effect of Insulin 341, a mixture of protamine insulinate and old insulin.

small dose of old insulin plus a larger dose of protamine insulinate given separately in the morning. At the Montreal General Hospital Rabinowitch[29] et al. tried the Hagedorn method of old insulin in the morning and protamine insulinate in the evening. The reverse procedure, old insulin in the evening and protamine insulinate in the morning was not very successful. Some patients were given protamine insulinate only and others protamine insulinate and old insulin separately and simultaneously in the morning. They were convinced that the severe hypoglycemic reactions could be avoided by using protamine insulinate only.



IV

Chart IV. Illustrates the difficulty encountered in treating a young diabetic with protamine insulinate. Note the last period, with the patient on old insulin again, the curve is satisfactory.



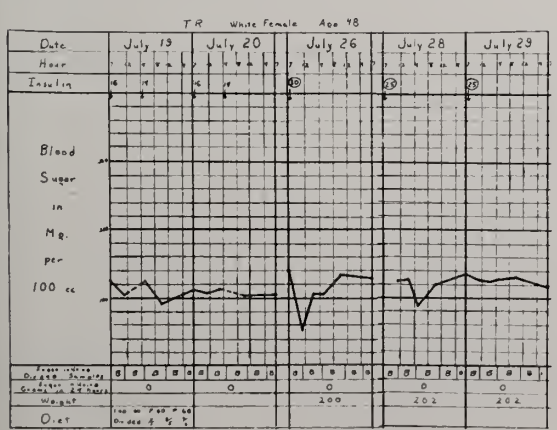
V

Chart V. Note bouncing ball curve of blood sugar values in first period with patient taking old insulin. Note leveling of curve on protamine insulinate, reduction in fasting blood sugar value and disappearance of glycosuria.

Conclusions

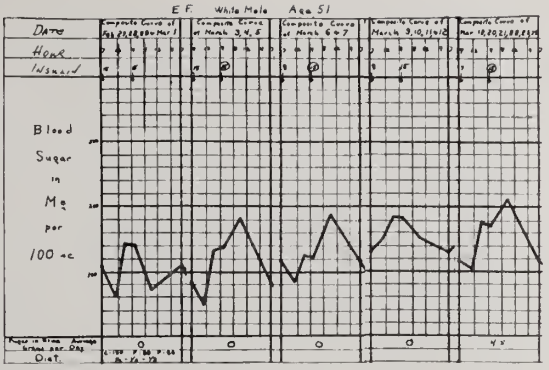
1. In rabbits the results obtained after subcutaneous injection confirm previous reports that the effect of protamine insulinate upon the blood sugar is more slow and more prolonged than that of old insulin.

2. Clinically and experimentally the action of protamine insulinate with zinc when given subcutaneously did not differ greatly from the action of protamine insulinate without zinc, although in animals the duration of effect was somewhat longer.



VI

Chart VI A stout, middle-aged diabetic whose diabetes was equally well controlled with old insulin.



VII

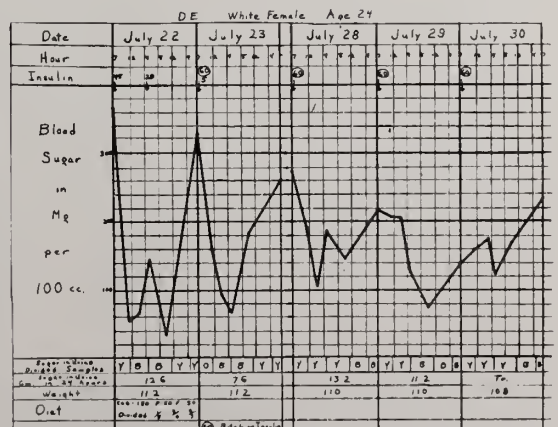
Chart VII. Before entering the hospital, this patient had been having daily moderately severe insulin reactions. His dosage was reduced and he was placed on protamine with disappearance of the insulin reactions and marked general improvement.

3. After intravenous injection in rabbits, the similarity of action of protamine insulinate and old insulin indicates that the prolonged action of the former compound after subcutaneous injection is due to its gradual absorption.

4. After intravenous injection of the protamine insulinate no effect was noted other than could be ascribed to the insulin content of the compound.

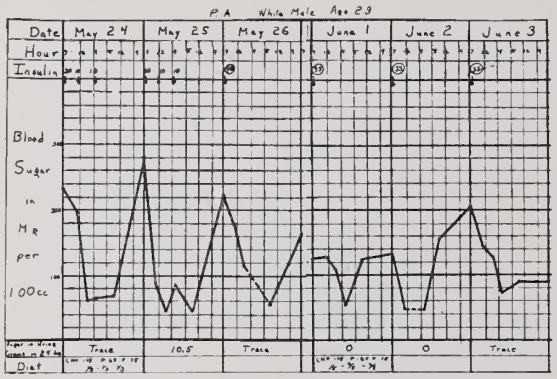
5. In diabetics, the number of daily doses and the total daily units administered were less with protamine insulinate than with old insulin.

6. In diabetics, the high fasting blood sugar level was promptly and easily re-



VIII

Chart VIII. Note bouncing ball type of curve in first period from old insulin. The curve levels off with protamine insulinate in one morning dose only and glycosuria disappears.



IX

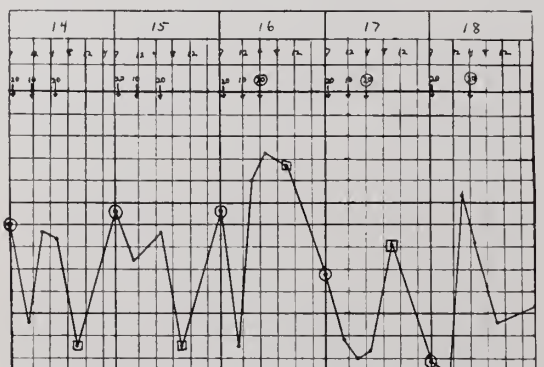
Chart IX. Wide fluctuations in blood sugar values in spite of three doses of old insulin daily. The morning dose of protamine insulinate controls the hyperglycemia.

duced by protamine insulinate and the wide diurnal fluctuations of blood sugar values were reduced.

7. Hypoglycemic reactions were in general fewer and milder.

8. Glycosuria was easily controlled.

9. A large majority of the patients voluntarily stated that they felt much better while taking protamine insulinate.



X

Chart X. Note in this continuous daily curve of the blood sugar, that when the patient is taking old insulin the lowest blood sugar value is at 10 p. m., the highest is the fasting value in the early morning. When this patient takes protamine insulinate the fasting values marked with a circle ○ are steadily lowered, while the 10 p. m. values marked with a square □ are increased.

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ABSTRACT OF DISCUSSIONS

Robert C. Lewis, Ph.D. (Denver): Joslin has characterized the discovery of the use of protamine insulinate by Hagedorn as the most important thing in the treatment of diabetes since Banting's report of insulin, and he characterizes the period which we are entering as the Hagedorn era. Certainly the importance of having a substance which will prolong its activity cannot be over-emphasized because by the use of protamine insulinate, the doses can be reduced—thereby the patient doesn't have to have as many subcutaneous injections.

But more important than that is the fact that there is a lesser tendency for fluctuation and a greater tendency for stabilization of metabolism, and not the chance of occurrence of crises, either an insulin reaction on the one hand or ketosis on the other.

Many of you will not realize that the animal experimentations on intravenous injections that Dr. Longwell has just reported are the first definite indications as to the mechanism of action of protamine insulinate. In a more detailed presentation which is now in press, Drs. Longwell and Ravin have reported this work and shown conclusively that the delayed action of protamine insulinate is due to the slower absorption of the products. Of course it might be possible that the protamine insulinate would act by being absorbed as such and then not being destroyed as rapidly as ordinary insulin. The fact that subcutaneous injection of protamine insulinate does not cause a delayed reaction but that the intravenous injection of protamine insulinate causes the same results as the intravenous injection of insulin, proves definitely that the mechanism is one of delayed absorption.

Robert W. Gordon, M.D.: One might speculate as to the possibilities of improvement in a product over that accomplished by Hagedorn with the production of this protamine insulinate. I think it is possible that a preparation—probably some kind of a preparation more complex than the protamine insulinate—might be devised which would lead to even slower action and thus make it possible to accomplish what protamine insulinate may do, in two or three injections, in one injection.

Old insulin has done much to preserve and prolong the lives of our diabetics, but in our severe diabetics it has failed to meet 100 per cent standards. This is particularly significant when we consider that the maximum effect of old insulin was manifestly in probably an hour and its entire effect felt in about eight hours.

In a diabetic living for twenty years, he will spend between five to ten years of his life with an abnormal blood sugar and all its attendant complications. Protamine insulinate promises to do away with this.

In the August, 1935, Journal of the American Medical Association Joslin stated, "To attain a maximum efficiency in the use of insulin its continuous administration would be necessary. Protamine insulinate, because it slowly liberates its insulin fraction, accomplishes just this ideal and more closely approximates the normal physiologic process of the individual."

Dr. Waring brought up the point of the probable allergic response in some patients to protamine. It has been noted that there have been several instances in what amounted to an acquired sensitivity, but with the continued use of the preparation the desensitization was accomplished.

With the use of protamine insulinate, the improvement in the tendency toward insulin atrophy might be noted. This is actually the case in over a thousand cases reported to date in which only one instance of atrophy has been reported. This is probably due to two factors: One, that the hydrogen ion concentration of the insulin protamine mixture is approximately that of tissue fluid and second, to the fact that fewer injections are necessary.

The fact that protamine insulin is apparently not the last word in the slowly absorbable insulin compounds is evidenced by the combination of other compounds that apparently work equally well without the undesirable effects of adding additional protein.

Gray and his associates on the coast have been mixing tannic acid with insulin, the resulting insulin-tannate being slowly absorbed and having a 20 to 25 per cent more hypoglycemic action per unit than insulin alone.

Zinc and calcium also apparently enhance the effect of insulin. I think it should be emphasized that with protamine insulin we do not alter the fundamental principles in the treatment of diabetes but merely more closely approximate the normal physiologic processes of the diabetic.

Dr. Waring (Closing): The manufacturers have supplied us with three other preparations, one protamine insulinate plus zinc and another protamine insulinate plus calcium. I did not include them in this report because we haven't proceeded far enough with their use to say whether they are an improvement on the other or not.

The protamine insulinate with calcium is supposed to act more quickly than the protamine insulinate alone. The manufacturers have also supplied us with crystalline insulin, which, according to reports already in the literature and according to the manufacturers, has an action that is about half way between ordinary insulin or old insulin and protamine insulinate. That is, it doesn't act quite as quickly as the old insulin and does not have quite as prolonged an action as protamine insulinate.

Finally, the disadvantages of protamine insulinate are very slight. The buffered protamine solution that comes in a separate bottle has to be mixed very carefully with the special 4 c.c. of U-50 Iletin furnished by the manufacturer. A fine, flocculent suspension is formed that has to be shaken carefully before it is given by the usual hypodermic administration.

Sometimes if the mixture isn't kept at a proper temperature, it may spoil. Rabinowitch of Montreal is very insistent that the mixture should be aged for four or five days before it is used. He thinks that, if that is done, the protamine insulinate suspension will then keep at room temperature without spoiling for as long as 116 days with identical effects as when it was tested at ten to fourteen days.

As gastric acidity often remains high after hemorrhage from duodenal ulcer, giving frequent feedings to patients who are bleeding is logical. The success of this method indicates that the danger of digesting the clot is greater than that of dislodging it mechanically.—Proceedings of the Staff Meetings of the Mayo Clinic.

Medical Organization

SIXTY-SIXTH ANNUAL SESSION, COLORADO STATE MEDICAL SOCIETY

Glenwood Springs, September 9, 10, 11, 12, 1936

PROCEEDINGS OF THE HOUSE OF DELEGATES

MINUTES IN DETAIL*

First Meeting of the House of Delegates, 8:15 p. m., September 9, 1936

President King called the House to order and requested the Secretary to read the Official Call. Mr. Sethman read the Call, as follows:

OFFICIAL CALL

To the Officers, Delegates, Committeemen and Members of the Colorado State Medical Society—Greeting:

The Sixty-sixth Annual Session of The Colorado State Medical Society will be held at the Hotel Colorado, Glenwood Springs, Colorado, Wednesday to Saturday, inclusive, September the Ninth, Tenth, Eleventh, and Twelfth, Nineteen Hundred and Thirty-six.

The Board of Trustees will convene at Three P.M., the Board of Councillors at Five P.M., and the House of Delegates at Eight P.M., all on Wednesday, September the Ninth, and each subsequently as ordered.

The General Scientific Assembly will convene at Ten A.M., Thursday, September the Tenth and subsequently according to the program of the Committee on Scientific Work.

WALTER W. KING, M.D.,
President.

Denver, Colorado,
July the Twentieth,
Nineteen Thirty-six.

The President then asked for the report of the Committee on Credentials.

Dr. J. S. Bouslog: "Mr. President, the report of the Credentials Committee stands as printed, except for the following changes:

"Huerfano County reports Dr. Noonan and Dr. Andrews unable to attend and appoints Dr. W. S. Chapman as delegate.

"San Juan County reports Dr. Charles L. Mason for delegate.

"Weld County has one delegate and one alternate unable to attend. They are entitled to three delegates. Dr. O. F. Broman from Weld County is here, but the Credentials Committee would have to ask the House for a ruling before he can be seated."

REPORT OF THE COMMITTEE ON CREDENTIALS

August 15, 1936.

To the House of Delegates:

The constituent societies are entitled to representation in the House of Delegates at the Sixty-sixth Annual Session as follows, under the provisions of Chapter V of the By-Laws:

Society—	Membership on Dec. 31, 1935	Number of Delegates
Adams County	7	1
Arapahoe County	17	1
Boulder County	42	2
Chaffee County	15	1
Clear Creek Valley	14	1
Crowley County	5	1
Delta County	20	1
Denver, City and County	494	20
Eastern Colorado	11	1
El Paso County	91	4
Fremont County	19	1
Garfield County	14	1
Huerfano County	9	1
Lake County	5	1
Larimer County	36	2
Las Animas County	19	1
Mesa County	20	1
Montrose County	9	1
Morgan County	11	1
Northeast Colorado	21	1
Northwestern Colorado	12	1
Otero County	27	2
Prowers County	16	1
Pueblo County	68	3
San Juan	16	1
San Luis Valley	29	2
Washington-Yuma Counties	14	1
Weld County	55	3
Total	1,116	58
President		1
Constitutional Secretary		1
Treasurer		1
Total membership of House		61

With the approval of the Board of Trustees, your Committee authorized the Kit Carson County Medical Society to change its name to Eastern Colorado Medical Society, effective January 1, 1936. That Society requested the change as more suitable for a Society whose jurisdiction covers three eastern Colorado counties, namely: Kit Carson, Cheyenne, and Lincoln. It is the opinion of your Committee several additional societies whose jurisdictions cover more than one county might very well change their names (from that of simply one county) to historic or other suitable names descriptive of their district jurisdictions.

Your Committee seeks approval of its action in granting the above change, and requests authority to reissue additional charters under district names should other societies act favorably upon your Committee's suggestion.

Your Committee is pleased to note that for a third consecutive year, most of the constituent societies show increased memberships. In three societies this has resulted in seating an additional delegate, Otero County and San Luis Valley increasing from one to two delegates, and Weld County from two to three. Due to the transfer of twenty-one members on Dec. 1, 1935, who had held non-resident membership in the Medical Society of the City and County of Denver, the Denver Society lost one seat in the House for this year. These transfers were made necessary

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*References herein to "printed reports" and "handbook" refer to the original reports of the respective officers and committees, which were printed in pamphlet form in advance of the session for the use of members of the House of Delegates.

An index to these minutes will be found on Page 814.

by amendments to the By-Laws adopted last year by the A.M.A. and by this House.

Your Committee is ready to act upon any question of credentials which may arise during the Annual Session. The House should draw its first roll call from the attached list of delegates and alternates who have been properly certified to this Committee.

JOHN S. BOUSLOG, Chairman,
O. E. BENELL,
O. B. RENSCH.

Following is the personnel of the House of Delegates as corrected to August 15, 1936, by the Committee on Credentials:

Society	*Delegate*	*Alternate*
Adams	J. W. Wells	W. F. Peer
Arapahoe	Hugh F. Lorimer	N. Paul Isbell
Boulder	W. P. Woods	J. D. Gillaspie
"	C. D. Bonham	J. A. Matlack
Chaffee	J. P. McDonough	Geo. H. Curfman
Clear Creek	R. G. Howlett	O. R. Sunderland
Crowley	Geo. B. Stanley	J. A. Hipp
Delta	A. C. McClanahan	E. R. Phillips
Denver	E. R. Mugrage	W. H. Halley
"	H. I. Barnard	H. R. McKeen
"	Atha Thomas	Thad P. Sears
"	O. S. Philpott	Emanuel Friedman
"	T. E. Beyer	C. F. Hegner
"	Jack G. Hutton	Craig Price
"	Glen E. Cheley	F. Julian Maier
"	G. Heusinkveld	J. M. Lipscomb
"	W. W. Haggart	James B. Walton
"	Paul J. Connor	V. G. Jeurink
"	Geo. B. Packard	P. W. Whiteley
"	J. M. Foster, Jr.	Maurice Katzman
"	David A. Doty	S. B. Potter
"	Jas. A. Philpott	B. B. Jaffa
"	K. D. A. Allen	J. R. Jaeger
"	Chas. J. Lowen	Lyman W. Mason
"	W. B. Yegge	Vera H. Jones
"	Duval Prey	E. L. Harvey
"	Roy P. Forbes	Frank E. Rogers
"	H. I. Laff	C. T. Burnett
Eastern	W. L. McBride	Leonard N. Myers
El Paso	L. A. Miller	Peter O. Hanford
"	D. A. Vanderhoof	Lloyd R. Allen
"	W. A. Campbell	F. O. Kettelkamp
"	W. K. Hills	James H. Brown
Fremont	E. C. Webb	A. D. Waroshill
Garfield	R. B. Porter	O. F. Clagett
Huerfano	G. M. Noonan	Geo. D. Andrews
Lake	L. L. Retallack	F. J. McDonald
Larimer	F. A. Betts	W. B. Hardesty
"	S. A. Joslyn	J. G. McFadden
Las Animas	M. C. Albi	Lee T. Richie
Mesa	E. H. Munro	Jas. S. Orr
Montrose	Isaiah Knott	F. G. Didrickson
Morgan	P. R. Hildebrand	
Northeast	J. W. Kinzie	J. E. Naugle
Northwestern	E. L. Morrow	B. M. Bailey
Otero	G. E. Calonge	Ward C. Fenton
"	S. V. Hagerman	R. S. Johnston
Prowers	Lanning E. Likes	L. R. Mitchell
Pueblo	J. H. Woodbridge	L. L. Ward
"	Geo. E. Rice	Geo. M. Myers
"	Geo. A. Unfug.	J. L. Rosenbloom
San Juan	O. B. Rensch	W. M. Elliott
San Luis	O. P. Shippey	C. A. Davlin
"	R. D. Taylor	
Wash.-Yuma	J. H. Larson	M. L. Crawford
Weld	O. E. Benell	J. A. Weaver, Sr.
"	W. A. Schoen	H. W. Averill
"	W. L. Wilkinson	Florence Fezer
President	Walter W. King	
Const. Sec'y.	John S. Bouslog	
Treasurer	John B. Hartwell	

President King: "The next order of business is the Roll Call, which Mr. Sethman will make from the Report of the Committee on Credentials."

The Executive Secretary called the roll from the report of the Committee on Credentials and announced that a quorum was present.

Dr. Bouslog: "Mr. President, I move the adoption of the report of the Credentials Committee as amended."

Dr. O. E. Benell: "Mr. Chairman: Is it the wish of the House of Delegates to seat Dr. Broman in Dr. Wilkinson's absence?"

President King: "According to the By-Laws he would be excluded but the Constitution reads very distinctly that the final judgment on credentials rests with the House. If there is objection, you express it; but if there is no objection the request of Dr. Benell as representing that Society will stand.

"Do I hear any objection? (None offered).

"By common consent, that stands.

"The motion is for the acceptance of the report of the Committee on Credentials as amended."

The motion was seconded and carried.

"Now the House is declared organized and ready for business.

"At this time we will call on Dr. Harry A. Smith, who was President of this Society in 1921. He is now in Whittier, California, and we are fortunate enough to have him with us this evening."

Dr. Harry A. Smith: "Gentlemen, I am very pleased to be back with you. I will present my credentials from the California Medical Association as a Fraternal Delegate to the Colorado State Medical Society for this session.

"I am very pleased to look into the faces of these familiar friends and greet you here.

"With that, I will leave your session."

President King: "You are quite welcome. You may have the use of the floor at any time in the House of Delegates, because you are an ex-president."

Dr. Smith: "I believe that is a better rule than we had in the olden days."

President King: "Dr. R. O. Brown of Santa Fe is with us, also. Will he say a word?"

Dr. Brown: "Gentlemen, it is with a great deal of pleasure that I greet you. I consider it an honor to be invited in to listen to your business. I hope I may learn something by which we may improve our procedures in New Mexico. If there is any message that I can carry to the New Mexico Medical Association, I should be delighted."

President King: "Thank you, Dr. Brown. We are certainly glad to have you with us. The Secretary will read the communication that Dr. Smith left with us."

Mr. Sethman read the letter, as follows:

To the President and Members of the Colorado State Medical Association:
Gentlemen:

It is my honor and pleasure to appoint Dr. Harry A. Smith of Whittier, California, as a Fraternal Delegate from the California Medical Association to the September meeting of the Colorado Medical Society.

Hoping that you will have a most successful meeting, I am

Cordially yours,
EDWARD M. PALLETTE, M.D.,
President, C. M. A.

President King: "The next order of business is the Minutes of the last meeting. They appeared in 'Colorado Medicine' in October and November, 1935."

Dr. Bouslog: "Mr. President, I move that the minutes of the Sixty-fifth Annual Session as printed in the October and November, 1935, issues of 'Colorado Medicine' be approved as printed."

The motion was seconded by Dr. Hartwell and carried.

President King: "With the consent of the House, the Chair will appoint Reference Committees to serve during the annual session. The first name read is of the Chairman of the committee.

"Reference Committee on Audits: G. E. Calonge, G. Heusinkveld, O. E. Benell.

"Reference Committee on Reports of Officers: George E. Rice, T. E. Beyer, D. A. Vanderhoof.

"Reference Committee on Constitution and By-Laws: George H. Curfman, George A. Unfug, C. T. Knuckey, E. H. Munro, Paul Hildebrand, Atha Thomas, J. G. Hutton, W. W. Crook, C. D. Bonham.

"Reference Committee on Legislation and Public Relations: George B. Packard, R. D. Taylor, W. A. Campbell.

"Reference Committee on Medical Economics and Federal Medical Services: Charles J. Lowen, S. V. Hagerman, L. A. Miller.

"Reference Committee on Miscellaneous Committee Reports: Hugh F. Lorimer, Paul J. Connor, E. L. Morrow.

"Reference Committee on Resolutions and New Business: K. D. A. Allen, W. A. Schoen, W. L. McBride.

"Some of these men are not here yet. If they do not arrive we will fill their places with some who are present.

"The meetings of these Committees are not star-chamber sessions. If you have something that you would like to present to them, get hold of the Chairman and tell him. The purpose of these Committees is to expedite the work of the House, not to smother it.

"The next order of business is the report of Boards and Officers. First in order is the report of the Board of Trustees by Dr. Bouslog."

Dr. Bouslog presented the report of the Board of Trustees as follows:

REPORT OF THE BOARD OF TRUSTEES

August 19, 1936.

To the House of Delegates:

We are sure that it will please you that your Board of Trustees will report more briefly than usual concerning its routine business, in spite of the fact that you will readily recognize the vital importance of the business transacted this year.

On October 3, 1935, the Board confirmed Committee appointments and handled routine financial and other business which is ordinary at the opening of the Society's year. That same evening the Board met with the Chairmen of all Committees. We listened to their views, advised them, and endeavored to coordinate Committee work for the year.

On December 14, the Board handled routine quarterly financial business, authorized the Kit Carson County Medical Society to change its name to Eastern Colorado Medical Society and conducted other general routine business.

On February 3, in addition to routine business and the handling of some matters relating to the 1937 Rocky Mountain Conference, the Board met with the Committee on Medical Education and Hospitals to consider the very important matter of the policies of this Society in relation to the Council on Medical Education and Hospitals of the American Medical Association. These policies had been under informal discussion in both the Committee and the Board at various times over a period of two years and at this time the Board gained the impressison that the American Medical Association Council was violating established policies of the American Medical Association itself as well as ignoring proper rights of the State Medical Society. At this meeting the Board created a sub-committee to present a petition to the American Medical Association Council and in addition directed the Executive Secretary to present our problems personally to the Council at its February meeting in Chicago. This was done but the results accomplished did not satisfy your Board. At later meetings held March 16 and May 9 the problem was further considered to the extent of drafting a resolution on this subject and instructing our American Medical Association delegates to present the resolution at the Kansas City annual session. The resolution was adopted by the American Medical Association House of Delegates in modified form and is fully explained in an editorial on page 388 of the June, 1936, issue of Colorado Medicine.

Also at the March 16 and May 9 meetings the Board handled routine financial matters and directed the Executive Secretary and certain committeemen to attend meetings in adjoining states to further the plan for the 1937 joint meeting.

Incident to the fact that the Executive Secretary had been unjustly criticized as to assignments of speakers for county society programs, the Board directed that hereafter such assignments be made by the Committee on Medical Education and Hospitals.

At each of these meetings preliminary work of one kind or another toward carrying out the instructions of the House of Delegates for creation of the Colorado Medical Foundation was done. A Committee of the Board, consisting of our President, President-elect, Treasurer, and Executive Secretary, had been empowered to employ lawyers to draft the legal documents. At a meeting July 8 your Board took final action putting all of this preliminary work into effect. Following an afternoon meeting devoted to the Board's routine quarterly business, the Board met with the Society's lawyers and accomplished the actual creation of the Colorado Medical Foundation. Under the authority granted last year by this House the Board adopted a series of resolutions, one of which included the adoption of the Trust Agreement. This is now available to members of the House in pamphlet form. Another resolution selected the International Trust Company of Denver as the original Trustee of the Fund. Another resolution is quoted in part because of its recommendation to the current meeting of the House:

"Now further be it resolved by the Board of Trustees aforesaid, that it is the policy of this Board and this Board accordingly so advises and recommends to the House of Delegates that the House of Delegates by appropriate action provide for the establishment of similar trust agreements to be made by the Society with other national banks and trust companies as may be selected by the Board of Trustees, provided no such trust agreement shall be entered into with any bank or trust company having a paid-up capital and surplus of less than one million dollars, and provided further that after the Trust Agreement

heretofore authorized, or any other like trust agreement has been entered into by the Society, that no trust under any such trust agreement shall be removed except by the vote of three-fourths of the members constituting the House of Delegates."

Additional resolutions authorized the signature of the necessary agreements with the International Trust Company by the President, Treasurer, and Executive Secretary, authorized the presentation to this House of a complete revision of the Constitution and By-Laws, directed that a special meeting of the whole medical Society be called according to corporation law, for 2:00 p.m., September 12, 1936, to amend the articles of incorporation, and continued the employment of attorneys for the Society to assist legally in the draft of these very important documents.

A special supplement to this report will explain the amendments to the articles of incorporation, the Constitution, and the By-Laws, final drafts of each of these having been approved by your Board of Trustees at a meeting held August 18. At this final meeting the Board also handled such routine matters preliminary to the Annual Session as are customary, including the draft of the budget for the new fiscal year which is presented as a separate supplement.

Your Board of Trustees is of the opinion that the Society has never undertaken any activity more important, more far-reaching, or more valuable for the future of both the profession and the citizens of our state than the establishment of the Colorado Medical Foundation.

BOARD OF TRUSTEES,
By JOHN S. BOUSLOG, M.D.,
Constitutional Secretary.

Dr. Bouslog: "We have had one meeting since the Handbook was printed,—this afternoon at three o'clock. At this meeting we considered the problem of the Society possibly having to pay a sales tax for 'Colorado Medicine.' We referred this matter to a committee for further study and to obtain a legal opinion. We approved the proposal for a new scale of fidelity bonds for the Treasurer's Office and the Executive Office. We approved the report of the certified public accountant for the 1935-36 year, and we approved actions taken to date by the various committees in laying final plans for this annual session."

SUPPLEMENT TO THE REPORT OF THE BOARD OF TRUSTEES

August 19, 1936.

To the House of Delegates:

When the founders of the Colorado State Medical Society incorporated our organization nearly one-half century ago, they of necessity had little conception of the type of organization the future would need. As a result, our Articles of Incorporation adopted October 31, 1888, are already grossly inadequate for our present purposes. However, under the laws of the state these Articles of Incorporation still form the basic law under which our Society operates.

This inadequacy of our Articles of Incorporation was one of the first major points called to the attention of the Board of Trustees by the attorneys whom we employed to draft the Colorado Medical Foundation documents as instructed by the House of Delegates last year. The Society must have broader corporation powers than the present articles provide if we are to protect the interest of the members of the Society, and their interest in the Foundation, for that future time when the Society and the Foundation control large sums of money.

A revision of the Articles of Incorporation is accordingly proposed, under the direction of the attorneys, and to correct these corporation defects legally, the Board found it necessary to summon a special meeting of the whole Society for Saturday, September 12, under the notice with which you are all familiar.

The Constitution, and even more so the By-Laws of the Society, have been amended from time to time in an attempt to keep them up to date. However, your officers have repeatedly noted during recent years that both these documents are inadequate in that they do not provide flexibility for future growth of Society activities. They are satisfactory for today but the vision of the future provided by the Colorado Medical Foundation proves them unsatisfactory for tomorrow. Furthermore, a number of amendments are necessary if the Constitution and By-Laws are to conform legally to the new Articles of Incorporation.

As a result of all these factors, your Board of Trustees, guided by legal counsel, is offering a complete revision of the Constitution and By-Laws as well as a revision of the Articles of Incorporation. While the Constitution cannot be amended without a legal lapse of one year, the new By-Laws now offered will conform to the new Constitution as well as the old and, what is more important, will conform to the new Articles of Incorporation.

The principal purposes of the revision are:

1. To establish a real definition of membership in the Society, which definition has never before existed.

2. To define accurately and to amplify the powers of the House of Delegates as the legislative branch and final business authority of our medical democracy.

3. To define accurately the powers of the Board of Trustees as the executive branch of our organization; to give the Board of Trustees unquestioned control, not only over expenditures of Society funds but over activities which might incur expense; to increase the membership of the Board of Trustees from seven to nine and provide overlapping terms for six of its members, so that at all times a majority will have had at least one year's experience with the financial affairs of the Society, yet having a sufficient influx of new members each year properly to reflect the attitude and policy of the Society's entire membership.

4. To define accurately the powers and duties of the Board of Councilors as the judicial branch of our organization.

5. To make clear and definite the powers, duties, and obligations of every officer of the Society, and to provide for impeachment of officers, should the need arise.

6. To provide a flexibility whereby the House of Delegates can in the future create additional offices and elect men to fill them when new problems requiring new officers arise, without the necessity of patching the Constitution and By-Laws in order to accomplish this end.

7. To clarify and protect the interests of the individual members in the Society's activities and property, and to simplify Society procedures which are designed to aid the individual practitioner.

8. To eliminate contradiction between the Constitution and the By-Laws and vice versa; to clarify every section and sentence which has been or might be ambiguous, and to unify this whole.

Changes proposed in addition to the numbered paragraphs above are merely for the purpose of clarification, accuracy, and flexibility, of which a sample is the elucidation of the respective rights of delegates and alternates which has been carried out in line with the policy advocated by this House one year ago, but which, due to the hurry of attempting to write a legal document in the short time available, turned out to be ambiguous. A few additional sections have been inserted in the Constitution and By-Laws giving legal justification to customs which have developed through usage but for which no legal power existed. For instance, we discovered that under the existing Constitution there was grave question as to the legality of the powers conferred upon the President-elect.

We believe that these new documents are as accurate and as secure as it is possible to make them and that they are as flexible as is commensurate with their accuracy. The existing By-Laws had been amended in sixteen places in the last six years! They are badly patched. Further patching could help them but what is absolutely necessary is a complete revision, from the Articles of Incorporation on down.

The proposed revision, which will be presented to you separately published, results from an exhaustive study of the present needs and as much of the future needs as can be foreseen, in collaboration with the Society's attorneys, and also from an intensive study of the Constitutions and By-Laws of progressive state medical societies, of the American Medical Association, and model documents suggested to states by the American Medical Association.

Respectfully submitted,

BOARD OF TRUSTEES,
By L. W. BORTREE.

President King: "Dr. Hartwell will now present an additional supplement to the report."

Dr. Hartwell: "It was voted last year, you remember, that the report of the Certified Public Accountant should stand as the report of the Executive Secretary and the Treasurer as far as the finances of the Society go.

"This year we ran about a thousand dollars behind. This is in part due to the fact that committees have obligated the Society, although they had no power to so do. We hope that with new By-Laws in force, this may be overcome.

"Of course the main thing is that our income is less than the demands which are made upon the treasury.

"I would like to call the attention of the House of Delegates to the fact that a new budget system has been adopted this year, in which account has been taken only of the routine expenses, and which doesn't take into account any appropriations or pseudo-appropriations for unexpected or unusual expense.

"Copies of the Certified Public Accountant's report are available here."

September 7, 1936.

The Colorado State Medical Society,
537 Republic Building,
Denver, Colorado.

Gentlemen:

I have made an examination of the accounts and records of The Colorado State Medical Society for the fiscal year ended August 31, 1936, and submit herewith the following exhibits, with my certificate:

Exhibit—

A.—Balance Sheets, August 31, 1936 and 1935 and Comparison.
B. Statement of Income and Surplus for the year ended August 31, 1936.
C.—Statement of Recorded Cash Receipts and Disbursements for the years ended August 31, 1936 and 1935 and Comparison.
D.—Statement of Budgets for the fiscal years 1936-1937 and 1935-1936 and Actual Cash Receipts and Disbursements for the fiscal year 1935-1936.
E.—Statement of Status of Funds, August 31, 1936.

In addition to the above, I submit the following comments:

INTRODUCTORY

The Colorado State Medical Society was incorporated on October 31, 1888, under the laws of the State of Colorado. The Society is a non-profit organization, the object of which is to promote the science and art of medicine.

The present officers of the Society are as follows:

President: Dr. Walter W. King.

President-elect: Dr. A. J. Markley.

Vice Presidents: First, Dr. L. W. Bortree; Second, Dr. Herman C. Graves; Third, Dr. A. C. Sudan; Fourth, Dr. C. W. Bixler.

Constitutional Secretary: Dr. J. S. Bouslog.

Treasurer: Dr. J. B. Hartwell.

The above officers constitute the Board of Trustees of the Society.

Executive Secretary: Mr. Harvey T. Sethman.

The paid membership of the Society was 1,109, which is an increase of 1 from that at August 31, 1935.

CASH ON HAND AND IN BANKS—$3,242.06

The cash at August 31, 1936, consisted of the following:

Petty cash in hands of treasurer	$ 5.00
Revolving Fund, First National Bank, Denver, Colorado	468.32
Savings Account, Colorado Springs National Bank, Colorado Springs, Colorado	255.21
General Account, Colorado Springs National Bank, Colorado Springs, Colorado	1,507.38
Auxiliary Benevolent Fund, International Trust Company, Denver, Colorado	1,006.15
Total	$3,242.06

The above balances, with the exception of $203.70, and the Auxiliary Benevolent Fund, International Trust Company, Denver, Colorado, in the amount of $1,006.15, and petty cash in hands of treasurer in the amount of $5.00, were confirmed directly to me by the depositaries. The $203.70 represents cash received after the books had been closed on August 31, 1936. The items comprising the above amount of $203.70 were inspected by me and were deposited in September, 1936. The Auxiliary Benevolent Fund, International Trust Company, Denver, Colorado, represents the balance on deposit in a savings account in said bank. I inspected a withdrawal slip signed by Mrs. L. G. Crosby and Reba A. Lingenfelter, dated August 31, 1936, in the amount of $1,006.15. I also inspected pass book No. 70772 of the International Trust Company, Denver, Colorado, which pass book showed a balance of $1,006.15. I am informed that withdrawal of said funds from International Trust Company, and the actual transfer to the Colorado State Medical Society will not take place until October 1, 1936, so as not to lose the interest on said account. The acceptance of the Auxiliary Benevolent Fund is in accordance with action of the Board of Trustees, subsidiary to actions of the Society, and its auxiliary taken jointly at the Sixty-fifth Annual Session of The Colorado State Medical Society, as evidenced by minutes which were inspected by me. The pass book and withdrawal slip were forwarded by registered mail to J. B. Hartwell, Treasurer, September 5, 1936. The petty cash fund of $5.00 is in the hands of J. B. Hartwell, Treasurer, in Colorado Springs, Colorado, and was not confirmed or inspected by me.

INVESTMENT IN BONDS AT FACE VALUE—$6,000.00

	Face Value	Market Value 8-1-'36
City of Trinidad Water Works Bonds, 4¾ per cent, Callable January 1, 1938	$1,000.00	$ 940.00
Scruggs, Vandervoort, Barney Realty Company, 6 per cent First Mortgage Bands	3,000.00	3,000.00
Federal Farm Mortgage Corporation, 3 per cent Bonds, 1942 - 1947	2,000.00	2,085.00
Total	$6,000.00	$6,025.00

The Colorado Springs National Bank of Colorado Springs, Colorado, certified to me that an official of their bank examined the above listed securities on August 31, 1936, and that they were in Box 505 of the safety deposit vaults of said bank, which box is rented to The Colorado State Medical Society.

During the fiscal year 1935-1936, the Society purchased $3,000.00 face value Federal Farm Mortgage Corporation, 3 per cent, 1942-1947, Bonds, at a cost of $3,091.38.

The Society sold the following bonds during the fiscal year 1935-1936:

	Face Value	Amount Received
City and County of Denver, Colorado, 4½ per cent Municipal Water Bond	$1,000.00	$1,190.00
U. S. Treasury, 3 per cent bonds, Callable 1948	2,000.00	2,035.75
Federal Farm Mortgage Corporation, 3 per cent bonds, 1942 - 1947	1,000.00	1,029.44
Total	$4,000.00	$4,255.19

As will be noted from the above, the Society's investment in bonds decreased $1,000.00 during the year under review. Upon inquiry from a local investment banker, I was informed that the Scrugg, Vandervoort, Barney Realty Company, 6 per cent, First Mortgage Bonds, will probably, in his opinion, be called on December 1, 1936. In view of the above fact that these bonds will probably be called on December 1, 1936, I would suggest that the Board of Trustees consider the advisability of disposing of these bonds before the call date, if they are of the opinion that the funds can be more advantageously invested before that time.

ACCOUNTS RECEIVABLE—$5,050.98

The above amount consisted of balances due on advertising contracts, etc. An analysis of the balance due on advertising contracts and comparison with balances due at August 31, 1935, is shown below:

	—August 31— 1936	1935	Increase Decrease*
Earned balances not more than six months past due	$ 952.22	$ 948.97	$ 3.25
Earned balances more than six months past due	1,408.56	1,429.99	21.43*
Unearned balances	2,690.20	3,197.70	507.50*
Total	$5,050.98	$5,576.66	$ 525.68*

Accounts in the amount of $686.41 which were considered uncollectible were written off. The reserve for doubtful accounts was decreased to $500.00, and this amount should be sufficient to cover anticipated losses. Negative confirmations were mailed on August 15, 1936, and only two minor differences were reported.

FURNITURE AND FIXTURES—$1,941.96

Additions to furniture and fixtures during the year under review amounted to $22.24. Depreciation has been provided for at the rate of 10 per cent per annum, and the accumulated reserve at August 31, 1936, was $1,224.45. I am of the opinion that the rate of 10 per cent per annum that is being used for the depreciation of furniture and fixtures, is perhaps excessive in view of the type of furniture and fixtures and office equipment owned by the Society. I would suggest that you have your furniture and fixtures appraised so that this fact can be more definitely ascertained, and a change made in the rate of depreciation, if such appraisal discloses the advisability thereof.

ACCOUNTS PAYABLE—$664.04

The accounts payable at August 31, 1936, consisted of the following unpaid items:

Joseph Karsh	$ 49.75
Mountain States Tel. and Tel. Co.	27.67
Harvey T. Sethman, postage	1.09
Western Union	3.05
Western Newspaper Union	507.11
Western Messenger Service	11.20
Miles and Dryer Printing Company	23.41
Kendrick-Bellamy Stationery Company	2.61
Western Press Clipping Bureau	5.00
Carter, Rice & Carpenter Paper Company	3.47
Addressograph Sales Agency	.66
Remington Rand, Inc.	7.50
Daily Journal Publishing Company	7.70
Dow Art Company	13.82
Total	$ 664.04

AUXILIARY BENEVOLENT FUND—$1,106.15

The above amount consists of $1,006.15 on deposit in the International Trust Company, Denver, Colorado, which has previously been commented upon herein, and $100.00 contribution made by the Society to said fund as per action of Board of Trustees, which action was in accordance with action of the House of Delegates at their 65th annual session.

SPACE RENTALS PAID IN ADVANCE—$115.00

The above amount represents advance payments for space at the annual meeting to be held in Glenwood Springs on September 9 to 12, 1936.

BUDGET

The detail of the budget for the fiscal year 1936-1937 as well as the detail of the budget for the year previous, and the actual cash receipts and disbursements of the Society for the fiscal year 1935-1936 is shown in Exhibit D hereof. The budget for the fiscal year 1936-1937 does not make provision for extraordinary items but only covers ordinary and necessary expenses. I consider the budget to be conservative.

STATUS OF FUUNDS

Submitted herewith is Exhibit E showing the status of funds of the Society as of August 31, 1936. As requested by Harvey T. Sethman, Executive Secretary of the Society, I did not verify the status of the funds at the beginning of the year but have used the amounts as shown by the treasurer's report at August 31, 1935, with subsequent transfers as ordered by the Board of Trustees.

GENERAL

The Society sustained a net loss of $1,007.26 during the year ended August 31, 1936, as shown by Exhibit B hereof. This compares with a net loss of $1,295.13 for the year previous. It will be noted that the income from advertising was $9,391.25 for the year ended August 31, 1936, which is an increase of $772.41 over the year previous. This increase is partially accounted for by an increase in advertising rates which became effective in May, 1936. The following is a schedule of the new and old rates for a local twelve-month contract:

	New Rate Per Month	Old Rate Per Month
One-page ad	$20.00	$15.00
One-half-page ad	12.00	9.00
One-fourth-page ad	7.00	5.50
One-eighth-page ad	4.00	3.25

I am informed that Dr. J. B. Hartwell, Treasurer, is bonded for $10,000, and Mr. Harvey T. Sethman, Executive Secretary, is bonded for $15,000. I did not inspect the fidelity bonds as I am informed they are kept in Colorado Springs, Colorado, but I did inspect invoices covering the premium on said bonds. None of the other employees of the Society are bonded. I believe the Society would have greater protection if the following schedule were put into effect:

	Amount	Premium
Dr. J. B. Hartwell	$10,000.00	$25.00
Mr. Harvey T. Sethman	10,000.00	25.00
Miss Helen Kearney	1,000.00	5.00
Miss Edras Norman	1,000.00	5.00
Mr. George A. Reynolds	1,000.00	5.00
Total	$23,000.00	$65.00

*Indicates red.

The premium on the fidelity bonds now in effect is $62.50 per annum.

The Colorado Medical Foundation was organized under a trust agreement dated August 3, 1936, between the Colorado State Medical Society, and the International Trust Company. I did not make an audit of the Colorado Medical Foundation as it was not included in the scope of this examination. I am informed the International Trust Company is to report directly to the Society.

The records are well kept and, in my opinion, correctly reflect the operations of the Society. Any further information in my possession, relative to the matters discussed, will be furnished if desired.

Yours truly,
J. LEON HARTSFIELD.

September 7, 1936.

The Colorado State Medical Society,
537 Republic Building,
Denver, Colorado.

I have made an examination of the balance sheet of The Colorado State Medical Society, as of August 31, 1936, and of the related statement of income and surplus for the twelve months' period ended on that date. In connection therewith, I have examined the accounts and records of the Society and other supporting evidence, reviewed the accounting methods and obtained information and explanations from officers and employees of the Society.

I have made an examination of all the assets and liabilities stated in the accompanying balance sheet, including the verification of cash balances and confirmation of securities owned. None of the securities or other assets were encumbered.

In my opinion, the accompanying balance sheet and the related statement of income and surplus of The Colorado State Medical Society fairly present its financial condition as of August 31, 1936, and the results of its operations for the twelve months' period ended on that date, and have been prepared in accordance with consistent application of accounting and with accepted accounting principles.

J. LEON HARTSFIELD,
Certified Public Accountant.

THE COLORADO STATE MEDICAL SOCIETY

(Incorporated in Colorado)

Balance Sheets, August 31, 1936, and 1935 and Comparison

ASSETS

	August 31 1936	August 31 1935	Increase Decrease*
Cash on hand and in banks	$ 3,242.06	$ 2,028.84	$ 1,213.22
Investment in bonds at face value (market value August 31, 1936, $6,025.00)	6,000.00	7,000.00	1,000.00*
Accounts Receivable	5,050.98	5,644.16	593.18*
Less reserve for doubtful accts.	500.00	600.00	100.00*
Remainder — net accounts receivable	$ 4,550.98	$ 5,044.16	$ 493.18*
Furniture and Fixts.	1,941.96	1,919.72	22.24
Less reserve for depreciation	1,224.45	1,032.73	191.72
Depreciated value, furniture & fixts.	$ 717.51	$ 886.99	$ 169.48*
Total	$14,510.55	$14,959.99	$ 449.44*

LIABILITIES

Accounts payable	$ 664.04	$ 804.87	$ 140.83*
Unearned portion of Advertising Contracts	2,575.20	3,197.70	622.50*
Auxiliary Benevolent Fund	1,106.15	---	1,106.15
Space Rentals paid in advance	115.00	---	115.00
Surplus, per Exhibit B	10,050.16	10,957.42	907.26*
Total	$14,510.55	$14,959.99	$ 449.44*

EXHIBIT A

*Indicates red.

THE COLORADO STATE MEDICAL SOCIETY

Statement of Income and Surplus for the Year Ended August 31, 1936

	Total	General	Colorado Medicine
INCOME:			
Dues, resident	$ 8,888.00	$ 8,888.00	---
Dues, non-resident	51.00	51.00	---
Space rental	585.00	585.00	---
Interest earned	250.27	250.27	---
Miscellaneous	219.48	219.48	---
Premiums on bonds —net	163.81	163.81	---
Collection of accounts previously written off	41.66	---	41.66
Advertising	9,391.25	---	9,391.25
Subscriptions	2,642.25	---	2,642.25
Sales	14.74	---	14.74
Cuts and Misc.	94.03	---	94.03
Total Income	$22,341.49	$10,157.56	$12,183.93
EXPENSES:			
Salaries	$ 7,199.65	$ 4,699.65	$ 2,500.00
Rent	330.00	330.00	---
Telephone & Telegraph	427.33	427.33	---
Taxes	58.47	58.47	---
Insurance	12.00	12.00	---
Audits, bonds and banking expenses	184.66	184.66	---
Traveling expenses	1,274.43	1,274.43	---
Mailing and supplies	770.08	770.08	---
Scientific work and exhibits	419.75	419.75	---
House of Delegates	206.13	206.13	---
Guests and entertainment	391.21	391.21	---
Printing and mailing	6,779.45	---	6,779.45
Supplies and promotion	339.84	---	339.84
Commissions	2,286.74	---	2,286.74
Collection expenses	96.01	---	96.01
Discounts allowed advertising agencies, etc.	726.53	---	726.53
Uncollectible accts. written off	686.41	---	686.41
Library	583.03	583.03	---
Public policy	285.31	285.31	---
Contribution to Auxiliary Benevolent Fund	100.00	100.00	---
Depreciation of furniture and fixts.	191.72	191.72	---
Total expenses	$23,348.75	$ 9,933.77	$13,414.98
Net profit for year	*$1,007.26	$ 223.79	*$1,231.05
Surplus at beginning of year	10,957.42		
Surplus credit—reduction in reserve for bad debts	100.00		
Surplus at end of the year	$10,050.16		

EXHIBIT B

THE COLORADO STATE MEDICAL SOCIETY

Statement of Recorded Cash Receipts and Disbursements for the Year Ended August 31, 1936, and 1935 and Comparison

	August 31 1936	August 31 1935	Increase Decrease*
Cash in banks at beginning of year	$ 2,028.84	$ 2,080.78	$ 51.94*
RECEIPTS:			
GENERAL FUND:			
Dues, resident	$11,110.00	$11,060.00	$ 50.00
Dues, non-resident	85.00	135.00	50.00*
Space rental	585.00	220.00	365.00
Interest received	269.92	391.05	121.13*
Sale of bonds	4,255.19	1,995.00	2,260.19
Transfer to Revolving Fund	200.00	---	200.00
Miscellaneous — postgraduate clinics	205.39	116.00	89.39
Other	18.09	241.28	223.19*
Auxiliary Benevolent Fund	1,006.15	---	1,006.15
Special contributions	---	508.50	508.50*

*Indicates red.

PUBLICATION FUND:			
Collection of accts. receivable previously charged off	41.66		41.66
Subscriptions	386.25	333.50	52.75
Collection of accts. receivable	8,671.79	8,661.33	10.46
Refund of advertising from Cooperative Medical Advertising Bureau	173.14		173.14
Sales	14.74	4.00	10.74
Total receipts	**$27,022.32**	**$23,665.66**	**$ 3,356.66**
Total	**$29,051.16**	**$25,746.44**	**$ 3,304.72**
DISBURSEMENTS:			
GENERAL FUND:			
Salaries	$ 3,799.65	$ 3,282.00	$ 517.65
Rent	330.00	330.00	
Telephone & telegraph	425.29	440.56	15.27*
Traveling expenses	1,274.43	1,175.89	98.54
Mailing and supplies	642.80	503.16	139.64
Scientific work & exhibits	412.95	794.77	381.82*
Permanent equipment	22.24		22.24
House of Delegates	212.93	207.12	5.81
Guests and entertainment	391.21	230.03	161.18
Taxes	58.47	70.56	12.09*
Audits, bonds and banking expense	184.66	184.95	.29*
Petty cash—J. B. Hartwell, treas.	5.00		5.00
Insurance	16.00	12.80	3.20
Addition to revolving fund	200.00		200.00
Refund of dues, resident		10.00	10.00*
Bonds purchased	3,111.03	2,068.63	1,042.40
PUBLICATION FUND:			
Salaries	2,500.00	3,042.00	542.00*
Printing and mailing	6,943.49	6,800.87	142.62
Supplies and promotion	339.84	409.45	69.61*
Commissions	2,320.74	1,912.81	407.93
Collection expense	96.01	100.21	4.20*
Court costs advanced	35.00	10.50	24.50
Discount allowed advertising agencies, etc.	724.02		724.02
LIBRARY FUND	583.03	424.24	158.79
EDUCATION FUND:			
Salaries	900.00	800.00	100.00
Public policy	285.31	281.94	3.37
Public policy—special		545.36	545.36*
Special appropriation		79.75	79.75*
Total disbursements	**$25,814.10**	**$23,717.60**	**$ 2,096.50**
Cash in banks at the end of year	**$ 3,237.06**	**$ 2,028.84**	**$ 1,208.22**

EXHIBIT C

THE COLORADO STATE MEDICAL SOCIETY

Statement of Budgets for the Fiscal Years 1936-1937 and 1935-1936 and Actual Cash Receipts and Disbursements for the Fiscal Year 1935-1936

	Budget for Fiscal Year 1936-1937	Budget for Fiscal Year 1935-1936	Actual Cash Receipts and Disbursements for Fiscal Year 1935-1936
RECEIPTS:			
Dues	$11,200.00	$11,000.00	$11,195.00
Space rentals	400.00	200.00	585.00
Interest	200.00	300.00	269.92
Publications	8,600.00	8,600.00	9,287.58
Miscellaneous	200.00	250.00	223.48
Sale of Bonds			4,255.19
Transfer to revolving Fund			200.00
Auxiliary Benevolent Fund			1,006.15
Total receipts	**$20,600.00**	**$20,350.00**	**$27,022.32**

*Indicates red.

DISBURSEMENTS:			
GENERAL FUND:			
Salaries	$ 4,300.00	$ 4,100.00	$ 3,799.65
Rent	330.00	330.00	330.00
Telephone and telegraph	250.00	375.00	425.29
Taxes	60.00	70.00	58.47
Petty cash—J. B. Hartwell, Treas.			5.00
Insurance		15.00	16.00
Addition to Revolving Fund			200.00
Audits, bonds and banking expense	185.00	185.00	184.66
Bonds purchased			3,111.03
Travel	750.00	1,000.00	1,274.43
Mailing and supplies	250.00	425.00	642.80
Permanent equipment	25.00	150.00	22.24
Scientific work and exhibits	250.00	400.00	412.95
House of Delegates	200.00	200.00	212.93
Guests and entertainment	250.00	225.00	391.21
Total general fund	**$ 6,850.00**	**$ 7,475.00**	**$11,086.66**
PUBLICATION FUND:			
Salaries	$ 2,610.00	$ 2,500.00	$ 2,500.00
Printing and mailing	6,300.00	6,400.00	6,943.49
Discount allowed advertising agencies, etc.			724.02
Supplies and promotion	175.00	250.00	339.84
Court costs advanced			35.00
Advertising commissions	1,800.00	1,800.00	2,320.74
Collection expense	100.00	100.00	96.01
Sales tax	60.00	50.00	†—
Total publication Fund	**$11,045.00**	**$11,100.00**	**$12,959.10**
MEDICAL DEFENSE FUND	$—	$ 25.00	$—
LIBRARY FUND	$ 500.00	$ 500.00	$ 583.03
EDUCATION FUND:			
Salaries	$ 900.00	$ 900.00	$ 900.00
Committee on public policy	100.00	200.00	285.31
Total Education Fund	$ 1,000.00	$ 1,000.00	$ 1,185.31
BENEVOLENT FUND	$—	$ 100.00	$—
Total Disbursements	**$19,395.00**	**$20,300.00**	**$25,814.10**
SURPLUS	**$ 1,205.00**	**$ 50.00**	**$ 1,208.22**

EXHIBIT D

THE COLORADO STATE MEDICAL SOCIETY

Statement of Status of Funds August 31, 1936

Condensed Statement of Recorded Cash Receipts and Disbursements by Funds for the Year Ended August 31, 1936

Balance on Hand, September 1, 1935 (includes investment in bonds)		$ 9,028.84
RECEIPTS:		
General Fund (does not include face value of bonds sold)	$11,943.59	
Publication Fund	9,872.58	
Revolving Fund	200.00	
Auxiliary Benevolent Fund	1,006.15	
Total Receipts		23,022.32
Total		$32,051.16

†Included in printing and mailing.

Note: The budget for the fiscal year 1936-1937 does not make provision for extraordinary items but only covers ordinary and necessary expenses.

DISBURSEMENTS:		
General Fund (does not include face value of bonds purchased)	$ 8,086.66	
Publication Fund	12,959.10	
Library Fund	583.03	
Education Fund	1,185.31	
Total Disbursements		22,814.10
Balance on Hand, August 31, 1936		$ 9,237.06
LIQUID ASSETS COMPRISING ABOVE BALANCE:		
Investments in bonds, face value	$ 6,000.00	
Revolving fund, First National Bank, Denver, Colo.	468.32	
Savings account, Colorado Springs National Bank, Colorado Springs, Colo.	255.21	
General account, Colorado Springs National Bank, Colorado Springs, Colo.	1,507.38	
Auxiliary Benevolent Fund, International Trust Company, Denver, Colo.	1,006.15	
Total	$ 9,237.06	$ 9,237.06

STATUS OF INDIVIDUAL FUNDS

	Balance Sept. 1, 1935	Appropriations	Receipts	Disbursements or Transfers	Balance Aug. 31, 1936
Medical Defense fund	$ 454.95	$ 25.00			$ 479.95
Library fund	219.31	500.00		583.03	136.28
Education fund	2,931.12	2,200.00		1,185.31	3,945.81
Publication fund		2,256.00	9,872.58	12,959.10	830.52*
Auxiliary Benevolent Fund		100.00	1,006.15		1,106.15
Revolving Fund	300.00		200.00		500.00
General fund	5,123.46		11,943.59	8,086.66 5,081.00†	3,899.39
Less publication fund deficit					830.52
Balance	5,123.46				3,068.87
Total	$9,028.84	$5,081.00	$23,022.32	$27,895.10	$9,237.06

EXHIBIT E

President King: "This report of the Board of Trustees will be referred to the Committee on Reports of Officers.

"Dr. Bortree's supplement should be considered by the Reference Committee on Constitution and By-Laws, and this Constitution and By-Laws Committee should consider such matters in the general report as refer to the necessities of the Constitution and By-Laws in conjunction with the other Reference Committee. Dr. Hartwell's supplement is also referred to the Reference Committee on Constitution and By-Laws. Ordinarily this would be referred only to the Committee on Audits. It is a new style budget, as he has told you, and drawn in contemplation of the changes in the By-Laws. It is for joint consideration of the Committee on Constitution and By-Laws and the Committee on Audits. The report of the Certified Public Accountant is referred to the Committee on Audits."

President King then called on Dr. Lingenfelter to present the report of the Board of Councillors. It was as follows:

*Indicates Red.
†Appropriations.

REPORT OF THE BOARD OF COUNCILLORS

August 5, 1936.

To the House of Delegates:

We are happy to report a year exceptional for its lack of dissension or need of judicial work on the part of the Council as a whole. In only one Councillor District has there been need for the peacemaking efforts of this body. In this one district, a county medical society has been seriously torn by factional dispute and the work of the Society has consequently been hampered. The Councillor of the district has labored incessantly to bring about an understanding between the disputing groups. At the time of writing this report it cannot be definitely stated whether the problem will be solved within the County Society or will force itself to a hearing before the whole Board of Councillors. Should settlement become final before or during the Annual Session, the Board of Councillors will report verbally to the House.

G. P. LINGENFELTER, Chairman.

Dr. Lingenfelter: "At a meeting of the Board of Councilors at 5 o'clock this afternoon a matter was discussed informally, but, as no properly prepared appeal to the Council has been made, it was the sense of the Councilors that the matter would be closed so far as they were concerned—at this time.

"The new Constitution and By-Laws, which are up for your approval, were brought before us so far as the sections governing the work of the Council were concerned, and the changes were unanimously approved by the Board of Councilors, so far as they applied to our work."

President King: "That supplement of the report of the Board of Councilors, aside from the portion referred to the Reference Committee on Reports of Officers, should be referred to the Reference Committee on Constitution and By-Laws.

"We will now have the report of the President."

REPORT OF THE PRESIDENT
"My Swan Song"

My time is short.

Do you remember the young lad who anxiously asked his grandmother when she was going to start playing football?

"Ridiculous," said Grandma. "What in the world made you ask such a question?"

"Well, I heard Dad say that when you kicked off he was going to buy a new car."

Now select your new cars, for I am about to "kick off" as your prexy.

Agreeable to an ancient custom adopted in all regular and well-governed Medical Societies, it becomes my duty to demand of you something of a listening attitude to my swan song—not for its intrinsic value, but that it may be laid up among the records in the archives of the Society as a memento of the swan song of the EXpiring President!

The American Medical Association is making increasing demands for autopsies and this may be an added reason for examining the body of the dead year, but it still remains a sort of funeral rite, an obsequy; an autopsy does not bring the dead back to life.

History which has been made admits of no change. The die is cast. It is the New Year,

born at this meeting, which we salute with sixty-six guns.

However, Justice demands some expression of my appreciation of the universal support which has been shown to our administration. The loyal giving of time and hard work of our committees and associate officers is deserving of far more commendation than I am able to express. To me the versatility and the competence of these officers and committees has been amazing.

We continually hear of doctors as the world's worst in financial ability, but will you allow me the observation that if Mr. Morgenthau of the national treasury had evidenced some of the Scotch of our Bortree and Hartwell, better budget results might have been obtained in Washington? (When I say Scotch, I don't mean whiskey!)

Now here is a statement which I make without fear of contradiction: When you find better thinking on Economics, Social Security and Public Policy than has been produced by Cooper, Wasson, Hillkowitz, Heusinkveld, Hutton, Madler and their associates you have made a real discovery of big league material.

Now off the record for a moment,—a bit of gossip. One of the highest officials of the American Medical Association recently made the statement to me that the Colorado State Medical Society is one of the three tops of the forty-eight states for activity and loyalty in organization activities of the A.M.A. Our Official Journal is equally recognized.

I want you to know another thing and this is **not** off the record. The character of assistance of our Secretary and Constitutional Secretary to your President has been beyond measure. These gentlemen are marvels of untiring energy.

The work of George Lingenfelter, acting as the accoucher of the now assured meeting of the Rocky Mountain States bids fair to be a movement which will have interesting potential value. The more thought you give it the more you are for it.

A lot more good things have happened but it is water that has gone over the wheel. Back of all this which might be classed as that to which "we point with pride," we are reminded that our year would have been as barren of results as the top of my head is of hair without the individual support of our membership. A chain is no stronger than its weakest link.

Now just glance as to what we "view with alarm." At the moment the most imminent danger we are facing is a flood of propaganda to foist compulsory health insurance on the public. After the November election an inundation of the press of the country with articles and books to persuade the public to accept **cheap** medical service in lieu of adequate wages to buy **good** medical care is sure to come, and when you observe that wherever this sort of insurance exists there are from three to five lay employees to one doctor, the permanency of the measure is explained. Grover Cleveland coined a fitting phrase,—"The cohesive force of public plunder."

The Colorado State Medical Society is not in partisan politics. Each member belongs to the political party of his own choice and votes as he pleases, but we must be prepared to intelligently resist the sales talk of social theorists which eventuates in the destruction of our best individual service to individual people.

The first of these efforts to appear is a recently published book by I. S. Falk, Health Consultant to the President's Committee on Social Security. In the July number of the Forum and Century, under the title of "Medicine's Horse and Buggy," James Rorty authors an article that is more than pink. Read it. It is as inaccurate as it is bitter.

In meeting this and similar propaganda may I mention again that our power as an organization does not reside in Chicago? It rests with the individual member and even his local society is only his amalgamated expression. The reason for the existence of the central offices of the A.M.A., if I may be allowed the paraphrasing, is "in order to form a more perfect union, establish justice, insure domestic tranquility, provide for the common defense, promote the general welfare and secure the blessings of liberty to ourselves and our posterity."

It has its function and serves it well, but you, and you, and you, are the power of the A.M.A. Whether we advance, stay where we are or retreat depends on the force, intelligence, and **cleanness** which each of us individually puts into the fight, first as **Men** and **Citizens** and then as **Doctors.** A fight that is won by methods not sound and clean is, in the last analysis, a loss.

Two coal black coons were playing poker.

"Ah wins."

"What you got?"

"Three aces."

"No, you don't. Ah wins!"

"What you got?"

"Two nines an' a razor."

"You shoh do! Howcome you so lucky?"

The moral is, don't win with razors. It's no disgrace to lose a pot. Chips have no permanent home.

Our Society has never had more competent leadership than such distinguished gentlemen as Dr. Markley and his associates assure us. They deserve what I know they will receive—the hearty support of every member. Let us make this year the best in our sixty-six. Let us forget wrongs and remember benefits.

Did holding a grudge ever make you a dollar or add one feature to your comfort? Don't hold it! Drop it! And witness the relief to your systolic pressure!

We all have faults and there are many injustices. It is not a mark of weakness to admit them. Mark Twain said. "When in doubt, tell the truth." It is the truth that it is our heritage to be an altruistic profession. The dollar must not be our primary objective. If we make an honest effort to clean our own door yards and study to improve our indidivual and collective service to the people, it is an unanswerahle argument to all opposition.

WALTER W. KING.

President King called upon the Vice Presidents for reports but there were none to be offered. He then called upon Dr. Bouslog to report as Constitutional Secretary. The report follows:

REPORT OF THE CONSTITUTIONAL SECRETARY

August 15, 1936.

To the House of Delegates:

Your Constitutional Secretary has acted largely in the capacity of consultant and adviser to the Executive Secretary during the past year, in addition to my ex-officio duties on the Board of Trustees and various committees.

Your Constitutional Secretary wishes to reminisce concerning his work with the Executive Office in the last three years. The increased number of meetings (both special and committees) and the increased amount of work that the various federal problems have thrust upon the Executive

Office is unbelievable to anyone who has not been in very close touch with all this work. Many problems arise very suddenly, and they must often be settled the same day. Many of you have been called upon to act at once, without details being explained until a later date. I have seen many requests come in by long distance telephone late in the evening that required more long distance work to answer, and that if delayed until the next day would completely change the problem. I anticipate many urgent demands from the Executive Office to the members of the Society this coming year, which I will explain in executive session.

Your Constitutional Secretary wishes to compliment the Executive Office for the efficient and speedy handling of these various problems, also for the capable way in which it has met numerous demands by the various committees: and to urge every member to reply promptly to the Executive Office's requests for aid or action in the solution of our organization problems.

JOHN S. BOUSLOG.

President King referred the report of the Constitutional Secretary, Dr. Bouslog, to the Reference Committee on Reports of Officers.

The President called on Mr. Sethman to report as Executive Secretary.

Mr. Sethman: "Mr. President, I will present the report as printed in the Handbook, together with the printed supplements, with the request that the Reference Committee on Reports of Officers consider those comments of the Certified Public Accountant, which note a few changes in figures that developed after the original report was sent to the printer.

"Perhaps the most interesting of those I should mention now,—which is that once again we have broken membership records for our fiscal year, though it is only by one. We now have one more member than we ever had before."

REPORT OF THE EXECUTIVE SECRETARY

August 19, 1936.

To the House of Delegates:

Such statistics as can be prepared before the actual close of the Society's fiscal year are appended as supplements to this report, and need little comment. At the time of writing, Active Membership totals two less members than at the beginning of the fiscal year, at which time membership stood at an all-time record. It is possible that this slight loss may be overcome in the days yet remaining before the Annual Session, and it is worthy of note that the total membership in all classes has this year surpassed all previous figures. Your Executive Secretary believes that Society growth is satisfactory.

As a supplemental table shows, there have been fewer committee meetings than in the previous years, but this should not be taken as indicative of decreased interest or effort in Society work. Rather, this has been a non-legislative year, thus requiring fewer meetings of the Public Policy Committee and its subsidiaries; also, the year has required fewer conferences with governmental officials concerning governmental medical activity, which in the previous year necessitated almost weekly meetings of certain committees.

The year has been an unusually busy one in several respects, with many activities undertaken, and some concluded, which have not heretofore existed in the Society. Your attention is especially called to the work done by and for the Board of Trustees in connection with the Colorado Medical Foundation and the allied problem of rewriting virtually all of the Society's organization law. Attention is urged also to the special hospital work done by that Board and by the Committee on Medical Education and Hospitals, to the preliminary but important developments in connection with the 1937 Rocky Mountain joint meeting, to the development of plans for operation of the Social Security Act, to the studies in medical economics, and to the added activities brought about by the proximity to Colorado of the 1936 A. M. A. Annual Session. The reports of the constitutional officers and committees in this year's Handbook discuss these matters in detail.

There are many activities of this Society whose value to the individual member is so indirect that the value cannot be personally felt until considerable time has passed. The Colorado Medical Foundation, the national legislative work, the improved relations with the public press, and the increase of friendly cooperation with lay organizations are but a few major examples of this type of work. The year just closing has, in the opinion of your Executive Secretary, been a remarkable one in the development of contacts outside the profession which will prove of definite personal value to every member in years to come.

After the books of the Society have been closed and audited on September 1, a supplement to this report will be prepared in discussion of the financial and business affairs of the Society.

In closing, your Executive Secretary wishes to record his deep appreciation of the friendly guidance of the constitutional officers and the committees throughout the year, and the prompt response on the part of many county society officers and members to his appeals for aid, all of whom have not only eased his way but have sometimes namelessly served the Society in tasks which have accomplished real benefit for the medical profession.

Respectfully,

HARVEY T. SETHMAN.

MEMBERSHIP

ACTIVE MEMBERSHIP (as of Aug. 19, 1936):

Resident paid		1,088
Resident gratis, by transfer		0
Non-resident paid		17
		1,105
Less deaths of 1936 members		3
		1,102
Less transfers of 1936 members out		1
Active members, Aug. 19, 1936		1,101
Active members, Aug. 31, 1935		1,103
Loss during year		2

ANALYSIS OF CHANGE IN ACTIVE MEMBERSHIP:

New members paid	62	
New members, by transfer	0	
Reinstatements	19	
Gross gain		81
Deaths during year	16	
Resigned	1	
Suspended	1	
Transfers to other states	14	
Actives elected associates	17	
Suspended for non-payment	34	
Gross loss		83
Net loss		2

ASSOCIATE MEMBERSHIP:

Associate membership, Aug. 31, 1935	51
Additions by election	37
	88
Losses, died	2
Associate members, Aug. 19, 1936	86

HONORARY MEMBERSHIP:

Honorary members, Aug. 31, 1935	7
Losses, died	1
	6
Additions by election	0
Honorary members, Aug. 31, 1936	6
Total members, all classes Aug. 19, 1936	1,193
Total members, all classes Aug. 31, 1935	1,161
	32

Committee Meetings

Totals of all State Society Committee meetings attended by the Executive Secretary. (This table corrected to Aug. 19, 1936):

Board of Trustees	7
Board of Councilors	1
Committees:	
Credentials	2
Scientific Work	12
Arrangements	2
Public Policy	8
Publication	7
Medical Defense	9
Medical Education and Hospitals	3
Library and Medical Literature	1
Cooperation with Allied Professions	1
Medical Economics	6
Necrology	0
Postgraduate Clinics	4
Cancer Education	3
Tuberculosis Education	2
Advisory to School of Medicine	3
Advisory to Board of Health	6
Advisory to F.E.R.A. & W.P.A.	2
Military Affairs	0
Gratuitous Medical Services	4
Rocky Mountain Joint Session	2
Total	85

Totals for previous years: 1931-32: 34; 1932-33: 108; 1933-34: 103; 1934-35: 263.

Office Statistics

Number of persons, exclusive of meetings of Society committees and other official bodies, who visited Executive Office:

Sept. 1, 1935, to Aug. 18, 1936	3,576
Number of business days in this period	298
Average visitors per business day	12
Average visitors per business day in previous year	9

Travel

The Executive Secretary attended, and in most cases except the A.M.A. meetings, addressed the following:

Constituent society meetings attended	34
(25 of the 28 constituent societies are represented in the above)	
Medical meetings and clinics, exclusive of above	16
Allied profession meetings	5
Public health and allied lay meetings	10
Outside Colorado:	
A. M.A. Annual Session and A.M.A. subsidiary meetings	4
State and county medical societies	8
Total	77
Total for previous year	76
Mileage of Executive Secretary on Society business at Society expense	16,307
Mileage of Executive Secretary at no expense to Society	3,330
Additional mileage of those accompanying Executive Secretary on official trips	27,858
Total man-mileage on record traveled on official business	47,495
Total man-mileage for previous year	51,620
Cost per man-mile, 1935-1936	$.0274
Cost per man-mile for 1934-1935	$.0248

Mr. Sethman read a further supplement to the Report of the Executive Secretary, as follows:

Sept. 3, 1936.

To the House of Delegates:

While the Board of Trustees is the body with financial powers, the Executive Secretary has been designated as the business manager of the Society, and, if it be not too presumptuous, I wish therefore to express to this House some personal views upon the Society's financial organization.

The Board of Trustees is the financial body of this Society under the By-Laws. It has been, for many years, but it is not charged with the complete and definite financial responsibility which your business manager believes should be the case, and which will be the case should this House see fit to adopt the proposed revision of the By-Laws that has been presented.

Under the present organization, the Board of Trustees—and, conceivably even the President, Treasurer, and Executive Secretary acting jointly as the disbursing officers—can refuse to pay any particular bill. It takes these three signatures to make any final disbursement of the Society funds, and conceivably each of these three officers therefore has veto power over expenditures.

However, veto power over payments is the real extent of financial control which the Board of Trustees and the disbursing officers now possess. And the plain fact is that it would be extremely embarrassing to the Society, to the Society's financial and credit standing, and in fact to all concerned, to veto an expenditure after it has been authorized in the name of the Society. To my knowledge, such has not been done in the seven and one-half years that I have held office as your Executive Secretary. The House of Delegates rightfully expects the Executive Secretary, as business manager of the Society, to do his best to guide expenditures properly, to hold down expenses where possible, and to promote the Society's financial welfare in every other way. However, the Executive Secretary is an employed officer, and each member of this House will readily recognize that the Executive Secretary, as an employee of the Society, cannot presume to question the right of a Society Committee, or a Society board or officer, to incur obligations.

It is perfectly possible, and even probable, that opportunities will offer themselves within the next year or two which of themselves are of real value to the Society, but which cost money that the Society cannot easily afford to spend at the time. If the present system were continued, I rather imagine that the money would be spent, and would be charged against regular budget items to the extent of running over the budget by the close of a fiscal year. However, under the proposed revision of the By-Laws, activities which incur expense, or which might be reasonably expected to obligate the Society to future expense, must be first approved by vote of the Board of Trustees. This plan, in my belief, will afford time for study of proposed activities before they have advanced to the point where the Society is financially obligated, will place the financial responsibility clearly with the Board of Trustees in the manner which the old By-Laws contemplated in spirit but failed to make enforceable in fact, and will take away from the Executive Secretary a financial responsibility which the facts of his position as an employee make it impossible for him to carry out.

The last four years have been years of financial depression for the Society, as well as for the country in general. Particularly has this been

so in the matter of the Society's income from advertising in Colorado Medicine. Colorado Medicine has done mighty well, considering the times. So far as we are able to determine, it has done better, proportionately to its circulation, than any other state medical journal. We are proud of the fact that the advertising executives of the American Medical Association frequently hold up Colorado Medicine as a model of advertising progress to other state journals. Colorado Medicine has helped pay Executive Office salaries and has paid part of the travel expenses of the Executive Secretary and Society officers. But Colorado Medicine has not earned enough to carry, together with the annual dues of the Society, those special endeavors and added extras in Society work which the last few years have developed.

This is not wholly due to the financial depression which the Society has had to weather these last few years. These have also been years when the medical profession and the Society were gravely endangered by outside factors. They have been years of special governmental activity in medical fields, years which, depression or no depression, simply demanded vigorous new work by the Medical Society to protect physicians' incomes and privileges, when those incomes and privileges were particularly in need of help. The return of better times, which seems to be certain, will lessen the need of some, though not all, of these special activities of the Society. It was natural, and vitally necessary, that the Society spend whatever had to be spent in these last four years to carry on its regular work, its special new work, and its protection of individual members and their incomes, of which the monumental work done by Economics Committees and their subcommittees during the FERA regime is the prime example. In doing so, we depleted the reserve funds of the Society. We did so in good causes, which are reflected today in hundreds of doctors' bank accounts in Colorado.

The time has now come, in my opinion, to restore those reserves. The new form of budget, and the new authorities proposed for the Board of Trustees in the By-Law revision, will make this possible if the Board of Trustees and those committees whose duties frequently involve expenditure will hew to the line. At the same time, the new form of budget will still allow ample authority and ample speed, should an emergency arise, to make expenditures outside the budget. However, every ordinary expense of the Society for the current fiscal year is included as well as can possibly be foreseen in the current budget, which falls a thousand dollars below conservatively estimated income. Extraordinary expenses, if, as and when they arise, will be separately accounted for under the new plan, so that the Board of Trustees frequently, and this House annually, will be better able to picture just how every bit of income was used, and to fix responsibility for expenditures on every department of Society activity.

I might add that this new plan will follow closely the plan of the American Medical Association for control of its own finances, though leaving with our House of Delegates certain final authorities in financial matters which the A.M.A. House of Delegates does not possess, but rather gives in absolute finality to its own Board of Trustees.

Respectfully,

HARVEY T. SETHMAN.

President King: "The report as it appears in the Handbook, with its supplement, should go to the Reference Committee on Reports of Officers, but this supplementary report should be referred to the Committee on Constitution and By-Laws, and should be reviewed by the Reference Committee on Audits."

The President called next for a report of the Delegates to the American Medical Association.

President King: "I want to say that all those present at the meeting of the A.M.A. will certainly concur in what I say,—that our representation there was very able. Any of those who had to do with the committee work where these delegates appeared agree that they did wonderful work for our organization."

Dr. Amesse: "Mr. President, as far as I am concerned, I don't feel I deserve any of the encomiums showered on the delegation. We simply tried to do our duty, following the line of the distinguished list of predecessors in this office.

"I have always felt the position of Delegate to the A.M.A. was a post of honor, and I want in this connection to express my appreciation for the privilege of representing this fine Society for the past eight years.

"I believe that it will not be necessary to amplify any of the report of the Delegates except to say that Colorado was in the spotlight for several days in Kansas City, and I believe it emerged without any damage to its prestige.

"It is my own final report to say that I want to express my thanks and appreciation to the Society and to hope that all of my successors, near and remote, will have the same measure of support and confidence that you have given me."

The printed report follows:

REPORT OF THE DELEGATES TO THE AMERICAL MEDICAL ASSOCIATION

August 13, 1936.

To the House of Delegates:

The unusually heavy registration from Colorado at the Kansas City session of the American Medical Association in May last would seem to render an exhaustive report entirely superfluous and unnecessary. For the permanent records of our Society, however, it should be noted that approximately 20 per cent of the membership availed themselves of this great opportunity, and that there was heard no dissent from the opinion expressed on every hand that the convention was an extraordinarily successful one. The total attendance, representing all of the constituent societies, was 6,824, with the families and the personnel of the various exhibits numbering as many more.

Notwithstanding the controversial nature of many issues offered for discussion to the House of Delegates, the deliberations were harmonious and the undivided energies of this great legislative power in American medicine were dedicated to the solution of the complex problems now presenting themselves. Particular attention was paid the exhaustive report of the Reference Committee on Legislation and Public Relations, and to the very lucid summary of the important problems which were considered during the past year. Referring to proposed changes in medical practice, it is of interest to recall that the responsible committee in Congress could assure the American Medical Association that discussion of this subject could not possibly be reached until the Autumn of 1936, and that, with full realization

of the tremendous cost of sickness insurance, this project would not conform to the present plan of administration leaders.

The complete survey of our national committee should be on the desk of every member.

Among other topics of more than passing concern to the informed practitioner, were measures which will eventually result in the practice of medicine being conducted by physicians instead of hospitals; resolutions disapproving the divison of any branch of medicine into technical and professional portions; certain recommendations affecting entrance requirements to schools of medicine; various amendments to the constitution and by-laws allowing the Judicial Council a broader measure of authority in controversies concerned with violations of medical ethics of more than local concern.

The report of the committee assigned one year ago to study contraceptive practices and related subjects stressed the various aspects in the problem of birth control. It emphasized the significance of over-population in the occidental world, and dealt freely with the eugenic, economic, moral and medical considerations of the question. This study will be continued throughout the current year.

A further item of legislation which attracted considerable attention was a resolution introduced by the Colorado delegation, at the instance of our Board of Trustees, requesting that state associations be notified when a hospital in their jurisdiction is threatened with removal from accredited lists. Although only a compromise ruling was finally adopted, it was felt that the discussion distinctly clarified the situation, and conserved the best interests of our hospitals.

These annual meetings of the world's largest medical organization have always attracted many distinguished visitors, and this session was made notable by the presence of Lord Horder of England, who made several delightful responses on social occasions, following a masterly address before one of the scientific sections.

Another unique feature of the convention was an address, delivered at the opening session and before an enormous audience, by the Governor of Kansas, later to become a candidate for President of the United States.

Notwithstanding the many evidences of cordial hospitality and good cheer displayed throughout the meeting, a note of sadness was everywhere manifested in the knowledge that the President-elect, Dr. J. Tate Mason, of Seattle, would be unable to further serve his profession. His death, as the members here will recall, followed in a few weeks.

In the final session of the House, Dr. J. H. J. Upham, of Ohio, was named President-elect, and Atlantic City was selected as the place of meeting for 1937.

Respectfully submitted,
J. W. AMESSE,
H. T. LOW.

Dr. Low: "Members of the House of Delegates: As the Junior Delegate to the A.M.A., I must say that I had a very wonderful training by the Senior Delegate, and also by your Secretary, who sat by me and told me what to do and when to do it and how to do it, and I think Colorado got on the map a little bit. I thank you very much for sending me as a Delegate to the A.M.A."

President King referred the reports to the Reference Committee on Reports of Officers. Standing Committee reports being next in order, the President asked for the reports of the Committee on Scientific Work and the Committee on Arrangements. The printed reports follow:

REPORT OF THE COMMITTEE ON SCIENTIFIC WORK

August 13, 1936.

To the House of Delegates:

The activities of this Committee are evidenced by the papers, discussions, conferences, and other events printed in the Official Program which is before you. Little additional comment is therefore necessary.

We are highly gratified at the increased response to our questionnaire, which elicited the desires of the membership for the particular subject matters to be treated in the papers this year. In our acceptance of essays submitted we were thus guided by the results of the plebiscite. The non-inclusion of other offerings is therefore no reflection on their excellence. We crave the indulgence of the authors whose papers were not accepted, and we wish to express our real appreciation of the cooperative spirit shown by so many whose suggestions we had to decline because of non-conformance with the desires of the membership as shown by the questionnaire.

It has been our endeavor to give preference to contributors from localities other than Denver, in order to stimulate the latent talents and potentialities in the physicians of the state who may be remote from a medical center.

The membership's request for continuation of the clinico-pathological conferences and the luncheon seminars led by guest speakers is proof of the usefulness of these forms of postgraduate endeavor.

PHILIP HILLKOWITZ, Chairman,
THAD P. SEARS,
ATHA THOMAS.

REPORT OF THE COMMITTEE ON ARRANGEMENTS

August 1, 1936.

To the House of Delegates:

Your Committee has met several times during the year in its endeavor to arrange suitable entertainment and general accommodations for this Annual Session.

Accommodations for all principal activities of the Annual Session have been provided at the Hotel Colorado, continuing the "everything under one roof" plan that has proved an attraction of the last two previous state meetings. The addition of the Swimming Party made possible by the location of this year's meeting will, we hope, add materially to the pleasure of those attending.

Your Committee is indebted to the other members of the Garfield County Medical Society whom we have pressed into service to take charge of one or more social events connected with the Annual Session.

In general, the arrangements have been made to follow out plans of the recent successful sessions, and for details we refer members of the House to the Program itself.

W. W. CROOK, Chairman.

These reports were referred to the Reference Committee on Miscellaneous Committee Reports.

The President called for the report of the Committee on Public Policy.

Dr. Halley: "Our President has outlined in his usual sane and sound and reasonable way how we should be guided,—the underlying principles that should guide us not only this year but in all future years. I hope that his address will be published and that all of you will read it.

"The Public Policy Committee of the State Society has its function, has its job, has the duty of trying to carry out those principles which Dr. King has laid down and in this, as he well emphasized, we can only do it by the combined help of all.

"For such reasons we have sent out, through the Secretary's office, a bulletin asking for information,—a questionnaire which many of the Secretaries of the Societies have received,—asking for information on candidates for the primary. We expect to send out some more before the final election.

"We want you to take those very seriously. The personnel of the Committee is changing. This next Committee will not be the same as the past Committee, but we want to leave a better groundwork, a better working machinery for the Committee that comes on.

"There were two things that we heard constantly about doctors. I have heard it from both political parties and in the last campaign. One of them was, 'We never know what the doctors want. Why don't you doctors get together and tell us what you want?'

"That is political camouflage. We have been telling these people what we want for years, but that is their excuse. Of course, the best defense is an attack, and they tell us we are not organized. Well, we are organized, and it is about time that we showed that organization strength.

"It probably will be no secret to any of you that this year we are trying to promote the Basic Science Law. You all know what it is. You all know its value to the people. It is in effect in other states, and I am told by those who ought to know that we are in a pretty good position to get it over this year."

The printed report was as follows:

REPORT OF THE COMMITTEE ON PUBLIC POLICY

August 14, 1936.

To the House of Delegates:

The Committee wishes first to express its appreciation of the excellent support given throughout the year by county societies and by individuals. It is an encouraging fact that cooperation has been noticeably better than in past years.

Some of the Committee's activities follow:

1. We have acted with the Advisory Committee to the Board of Health in matters relating to the Social Security Law.

2. In conjunction with the National Forensic League and similar groups, we have distributed A. M. A. and other publications presenting the views of organized medicine in the nationwide debate on the question of the socialization of medical practice.

3. We considered and discouraged various schemes proposed by outside groups, supposedly interested in ethical medical publicity.

4. We cooperated with the Board of Medical Examiners in procuring evidence for use in prosecuting illegal practitioners.

5 We have heartily supported the A. M. A. in national legislative matters.

6. We considered and approved the program of the American Red Cross in placing first aid stations on dangerous highways.

7. We interested ourselves with other organizations in defeating an attempt to broaden the state sales tax to include a tax on professional services.

8. We represented the Society before the special sessions of the legislature which considered Social Security and allied legislation.

9. We urged county medical societies to adopt programs of radio publicity.

The details of these activities will be discussed in the House of Delegates.

The Committee recommends that the members of the Society, everywhere in Colorado, take a more active interest in local and state affairs. We must cultivate the acquaintance of all public officials. It is urged that we continue to submerge personal and individual interests in favor of organization interests.

Our Society is not a political unit. Our ideal is to advance our own science and protect the public health; in our efforts to realize this ideal we need the cooperation of all. The political affiliations of our members are of no interest to us as a Society. We advise against attacking opponents, and against seeking or securing pledges from candidates. However, public officials and candidates for public office should be constantly reminded of our interest in medical and health affairs. Our guiding principle should be positive leadership rather than negative opposition.

Attached as a supplement is the current bulletin of the Committee relating to candidacies for the 1937 legislature.

COMMITTEE ON PUBLIC POLICY,
By WILLIAM H. HALLEY, Chairman.

SUPPLEMENT TO THE REPORT OF THE COMMITTEE ON PUBLIC POLICY

Bulletin from The Colorado State Medical Society, Office, 537 Republic Building, Denver, Colorado.

WE NEED INFORMATION!

It is the concern of the Medical Society to avoid any group affiliation with particular parties. It is our concern to maintain political impartiality, and to be particularly careful not only to **appear** to do so, but **do** so. We must study legislative candidates solely as to their qualifications, if elected, to protect and promote the interests of the people in sound public health and medical legislation.

First—It is essential that your Committee on Public Policy have as much accurate information as possible on the candidates for the Colorado legislature, **at once,** so that your Committee can formulate plans to stimulate interest among all physicians in the election of well-qualified legislators for the next General Assembly, which convenes early in January.

Interview each candidate in your county personally, please, or see to it that this is done by another interested member of your local medical society, in case some candidate resides too far from your home. DO NOT ASK CANDIDATES FOR PLEDGES. Merely seek their opinions and attitude on public health and medical questions. What we want is INFORMATION, and your own reaction to the attitude of candidates, based on your interviews with them. We also want your constructive suggestions on methods of procedure.

Second—It is important that you and your colleagues have accurate information on the records of those seeking re-election to the legislature. Our State Executive Office has an accurate file on previous members of the legislature. This data may be secured by you upon request.

You are familiar with local political situations; your central state Public Policy Committee must depend upon you for information.

COMMITTEE ON PUBLIC POLICY,
By WILLIAM H. HALLEY, M. D., Chairman.

The report was referred to the Reference Committee on Legislation and Public Relations.

Dr. King called for the report of the Committee on Publication.

REPORT OF THE COMMITTEE ON PUBLICATION

August 11, 1936.

To the House of Delegates:

In addition to the routine functions of an advisory body in matters pertaining to Society publications, we have concurred in the following significant changes in the journal:

1. The cover pages have been redesigned and a two-color scheme has been inaugurated.
2. The journal has been copyrighted.
3. A regular and attractive semi-annual directory has been published as a supplement to the journal.
4. A radiological page, prepared, edited and paid for by the Denver Radiological Club, has been accepted from month to month.

Statistical data setting forth something of the comparative scope and amount of published material for the years 1934-35 and 1935-36 is recited in the following paragraph:

September to August, inc.	1934-35	1935-36
Pages, scientific sections (excluding covers)	528	494
Pages, advertising sections (excluding covers)	558	486
Total pages published (excluding covers)	1,086	980
Cover pages published	48	56
Original articles, Colorado section	51	53
Original articles, Wyoming section	8	11
Original articles, Hospital section	11	13
Case reports, Colorado section	8	13
Case reports, Wyoming section	1	2
Directory pages, Colorado and Wyoming	21	39
Books received for review	88	60
Volumes of exchange journals received	86	86

The financial statement on publication will be found as a part of the Treasurer's annual report. Present forecasts seem to indicate that the report will be satisfactory.

We again wish to express our keen appreciation for the work of Dr. Douglas W. Macomber, editor, and Mr. Harvey Sethman, business manager.

C. S. BLUEMEL,
OSGOODE S. PHILPOTT,
C. F. KEMPER, Chairman.

The report was referred to the Reference Committee on Miscellaneous Reports and the report of the Committee on Medical Defense called for. It reads:

REPORT OF THE COMMITTEE ON MEDICAL DEFENSE

August 16, 1936.

To the House of Delegates:

The Medical Defense Committee has held eight formal meetings during the year, and in addition a number of cases have been considered informally by the committee members on report forms submitted to them individually by the Executive Secretary.

Of the cases completed and closed during the year either in or out of court, twenty-three have resulted in vindication and exoneration of the defendant physician. In four other instances, upon recommendation of this Committee, there has been an out-of-court cash settlement, either because of definite culpability of the defendant or because of circumstances in the case which in the Committee's opinion rendered the case prejudicial against the defendant in the eyes of a jury.

A tabulation of the year's malpractice cases reported to and handled by your Committee follows:

Cases pending August 15, 1935	24
New cases reported during year	14
	38
Cases closed during year	27
Cases pending August 15, 1936	11

While just as many new cases developed during the year as did in the previous year, closure of the cases has been more rapid, and of those still pending, six are classified as active, and five as inactive and probably soon to be closed. Half of the new cases reported during the year were closed within the same year, which is unusual.

Your Committee gets the impression that its work has been of sufficient educational character to bring some of the lawyers, if not the patients themselves, to see the futility of bringing unjust suits against doctors.

The Committee wishes to thank all members of the Society who have been called before it, for their cooperation and willingness to serve the Society. Very few have been neglectful in that respect.

F. B. STEPHENSON, Chairman.
EDWARD DELEHANTY,
T. E. BEYER.

The report was referred to the Reference Committee on Legislation and Public Relations. Next the President asked for the report of the Committee on Medical Education and Hospitals. The report reads:

REPORT OF THE COMMITTEE ON MEDICAL EDUCATION AND HOSPITALS

August 5, 1936.

To the House of Delegates:

On January 28, 1936, the members of the committee held a joint meeting with the Trustees of the Society and considered what actions should be taken concerning the removal of one of the leading hospitals from the interne list, by the Council on Medical Education and Hospitals of the A. M. A. A report of this meeting and the conclusions and action authorized will no doubt be explained by the Trustees.

On March 6, 1936, Dr. M. F. Haralson, Acting Secretary of the State Board of Health, submitted a copy of revised regulations proposed by the State Board of Health covering issuance of licenses to hospitals, sanatoria, lying-in hospitals, maternity homes, dispensaries and other similar institutions. An effort was made to have a meeting of the committee with Dr. Haralson to discuss the regulations. For some unknown reason the same did not materialize. A copy of the regulations was reviewed by the members of the committee. It was agreed that they are necessary requirements, yet felt that they are not fully adequate, and should embody the additional requirements adopted by the American Hospital Association.

The requirements of the State Board of Health, as submitted, cover items as licenses to operate, personnel of medical and nursing staffs, records of patients, sanitary conditions, communicable diseases, innoculation of those in attendance against

typhoid, para-typhoid and smallpox, and construction to safeguard against fire. These are necessary requirements. The five essentials of an accredited hospital, established by the American Hospital Association, would greatly enhance the scientific and protective care of the sick and injured in our state. We have heard nothing further concerning final action.

On March 16, 1936, we reconvened with the Board of Trustees to hear reports of the committees appointed at the January meeting, concerning the question and action of the Council on Medical Education and Hospitals of the A. M. A. A definite procedure was decided upon, and this, no doubt, has been or will be reported by the Board of Trustees.

JOHN ANDREW, Chairman,
JOHN G. RYAN,
G. E. CALONGE.

The report was referred to the Reference Committee on Miscellaneous Committee Reports and Dr. King called for the report of the Committee on Library and Medical Literature. The report reads:

REPORT OF THE COMMITTEE ON LIBRARY AND MEDICAL LITERATURE

August 10, 1936.

To the House of Delegates:

Your Committee has carried out this year to the best of its ability the duty customarily devolving upon this group, namely, that of supervising the expenditure of State Society appropriations to the Denver Medical Library. While the financial reports will show that the usual $500.00 appropriation for library purposes was exceeded this year, this was done with the consent of the last annual meeting of this House, since a surplus remained from previous years.

We wish at this time to pay especial tribute to the work of Dr. James J. Waring, Library Director, whose sometimes thankless efforts in behalf of the Library have not alone made this Committee's task light but have contributed immensely to the Library's present and future excellence. We congratulate both the Denver and the State Societies upon having a Library Director who gives of himself so unselfishly to the welfare of these organizations' activities.

Attached are the customary supplemental reports noting the year's acquisitions to the Library.

Respectfully submitted,

GERALD B. WEBB, Chairman.
FRANK R. SPENCER,
JOHN W. AMESSE.

Books received by Colorado Medicine for review, September 1, 1935 to September 1, 1936:

American Pharmaceutical Association: The National Formulary, 1936 American Pharmaceutical Association.

Associates and House Officers at the Peter Bent Bingham Hospital: Medical Papers Dedicated to Henry Asbury Christian. Waverly Press.

Bambridge, W. Leaman: The Thryoid. Springfield, Ill., Chas. C. Thomas.

Berens, James R.: The Eye and Its Diseases. Philadelphia, W. B. Saunders Co.

Bloss, James R.: Transactions of the American Association of Obstetricians, Gynecologists and Abdominal Surgeons. St. Paul, The Bruce Publishing Co.

Bram, Israel: Exophthalmic Goiter and Its Medical Treatment. St. Louis, The C. V. Mosby Co.

Bray, W. E.: Synopsis of Clinical Laboratory Methods. St. Louis, The C. V. Mosby Co.

Buehler, E. C.: Free Medical Care, Debaters' Help Book, Vol. II. New York, Noble and Noble, Publishers, Inc.

Carrel, Alexis: Man The Unknown. New York, Harper Brothers.

Certified Milk Producers' Association: Certified Milk.

Chideckel, Maurice: The Single, the Engaged and the Married. Eugenics Publishing Co.

Christopher, Frederick: Minor Surgery. Philadelphia, W. W. Saunders Co.

Christopher, Frederick: Textbook of Surgery. Philadelphia, W. B. Saunders Co.

Council on Pharmacy and Chemistry: Glandular Physiology and Therapy. Chicago, American Medical Association.

Crossen and Crossen: Diseases of Women. Philadelphia, W. B. Saunders Co.

Dutton, Walton Forest and Lake, George Burt: Parenteral Therapy. Springfield, Illinois, Charles C. Thomas, Publisher.

Eighth Annual Graduate Fortnight of the New York Academy of Medicine: Diseases of the Respiratory Tract. Philadelphia, W. B. Saunders Co.

Eusterman, George B. and Balfour, Donald G.: The Stomach and Duodenum. Philadelphia, W. B. Saunders Co.

Glendening, Logan: The Balanced Diet. New York, D. Appleton-Century Co., Inc.

Goodale, Raymond H.: Interpretation of Laboratory Findings. Philadelphia, F. A. Davis Company.

Goodwin, George M.: Russel A. Hibbs. New York, Columbia University Press.

Haggard, William D.: Surgery, Queen of the Arts. Philadelphia, W. B. Saunders Co.

Hansel, French H.: Allergy of the Nose and Paranasal Sinuses. Philadelphia, W. B. Saunders Co.

Herrmann, George R.: Synopsis of Diseases of the Heart and Arteries. St. Louis, The C. V. Mosby Co.

Herrmann, Louis G.: Passive Vascular Exercises. St. Paul, The Bruce Publishing Co.

Hutchison, Robert and Wanchope, G. M.: For and Against Doctors. Baltimore, William Wood and Company.

Imperatori, Chas. J. and Burman, Herman J.: Diseases of the Nose and Throat. Philadelphia, J. B. Lippincott & Co.

International Clinics: Philadelphia, J. B. Lippincott & Co.
September, 1935 Vol. III.
December, 1935 Vol. IV.
March, 1936 Vol. I.
June, 1936 Vol. II.

Karsner, Howard T.: Human Pathology. Philadelphia, J. B. Lippincott & Co.

Knopf, S. A.: Heart Disease and Tuberculosis.. The Livingston Press.

Kugelmass, Newton T.: Growing Superior Children. New York, D. Appleton-Century Co., Inc.

Levine, Samuel: Clinical Heart Disease. Philadelphia, W. B. Saunders Company.

Malmburg, Carl: Diet and Die. Philadelphia, W. B. Saunders Co.

Marriott: Infant Nutrition. St. Louis, The C. V. Mosby Company.

Matsner, Eric M., Dickenson, Robert L. and Kennedy, Fostor: Technique of Contraception. Baltimore, Williams & Wilkins Co.

Montague, J. F.: Why Bring That Up. New York, The Home Health Library.

Morton, Dudley J.: The Human Foot. New York, Columbia University Press.

Mumey, Nolie: History of Silas Weir Mitchell, the Versatile Physician. Denver, The Range Press.

Murray, John Walts: Examination and Symptomatic Diagnosis of the Patient. St. Louis, The C. V. Mosby Co.

Parlor, Ivan P.: Lectures on Conditional Reflexes. New York, Liveright Publishing Co.

Paterson, Robert G.: Robert Harvey Reed, A Sanitary Pioneer in Ohio. Columbus, Ohio Public Health Association.

Puhlic Health Service Annual Report of Surgeon General of the United States on Fiscal Year 1935: United States Printing Office.

Rehfuss, M. E., & Nelson, Guy N.: The Medical Treatment of Gallbladder Disease. St. Louis, The C. V. Mosby Co.

Rice, Thurman B.: A Textbook of Bacteriology. St. Louis, The C. V. Mosby Co.

Sadler, William S.: Theory and Practice of Psychiatry. St. Louis, The C. V. Mosby Co.

Shelling, David H.: The Parathyroids in Health and in Disease. St. Louis, C. V. Mosby Co.

Sherwood, N. P.: Immunology. St. Louis, The C. V. Mosby Co.

Solomon, Chas.: Prescription Writing and Formulary. Philadelphia, J. B. Lippincott and Co.

Stacey, J. Editor California Medical Association Cancer Commission Committee Studies. J. W. Stacey, Inc.

Stander, Henricus J.: Williams Obstetrics. New York, D. Appleton-Century Co.

Stone, Hanna and Stone, Abraham: A Marriage Manual. New York, Simon & Schuster.
Strecker, Edward A. and Ebaugh, Franklin G.: Practical Clinical Psychiatry. Philadelphia, P. Blakiston's Son & Co., Inc.
Surgical Clinics Vol. 16 No. 1: Philadelphia, W. B. Saunders Company.
Taussig, Frederick J.: Abortion Spontaneous and Induced. St. Louis, The C. V. Mosby Co.
Todd, James Campbell: Clinical Diagnosis by Laboratory Methods. Philadelphia, W. B. Saunders Co.
United States Pharmaceutical Convention: Pharmacopoeia of the United States. Mack Printing Co.
Wolf, William: Endocrinology in Modern Practice. Livingston Press.

Supplement to Report of Committee on Library and Medical Literature

September 1, 1935, to Sept. 1, 1936

Number of volumes in Library, Sept. 1, 1935	2,486
Volumes purchased, Sept. 1, 1935, to Sept. 1, 1936	42
Volumes received through Colorado Medicine, Sept. 1, 1935, to Sept. 1, 1936	54
	2,582
Cost of volumes purchased	$251.83
Maintenance appropriation	250.00
Total visitors residing outside Denver, Sept. 1, 1935, to Sept. 1, 1936	40
Shipments requested, Sept. 1, 1935, to Sept. 1, 1936	98
Items loaned, Sept. 1, 1935, to Sept. 1, 1936	187

Books Purchased for the Colorado State Medical Library

September 1, 1935, to September 1, 1936

American Medical Association: Glandular Physiology and Therapy; a Symposium Prepared Under the Auspices of the Council on Pharmacy and Chemistry of the American Medical Association. 1935.
American Medical Association: Laws and Board Rulings Regulating the Practice of Medicine in the United States of America and Canada. Chicago A.M.A., 1933.
Bickham, W. S., and Smyth, C. M., Jr.: Operative Surgery. v. 7. Phil., Saunders. 1933.
Biographisches Lexikon der hervorragenden Arzte aller Zeiten und Volker. v. 6. Supp. to vols. 1-5.
Bodansky, Meyer: Introduction to Physiological Chemistry. N. Y., Wiley. 1934.
Boyd, William: Surgical Pathology. 3rd ed. Phil., W. B. Saunders. 1934.
Brailsford, James F.: The Radiology of Bones and Joints. Balt., William Wood & Co. 1935.
Bridges, M. A.: Food and Beverage Analysis. Phil., Lea & Febiger. 1935.
Bull, H. Cecil: X-Ray Interpretations. Oxford Univ. Press. 1935.
Cabot, Hugh: The Doctor's Bill. 1935.
Callander, C. L.: Surgical Anatomy. Phil., Saunders. 1935.
Clapp, C. A.: Cataract, Its Etiology and Treatment. Phil., Lea & Febiger. 1934.
Davidson, Maurice: A Practical Manual of Diseases of the Chest. London, Humphrey Milford. 1935.
Denver City Directory, 1936.
Dodge, C. W.: Medical Mycology. St. Louis, C. V. Mosby Co. 1935.
Eliason, E. L., and others: Surgical Nursing, 4th Ed. Phil., Lippincott. 1934.
Harrison, B. J. M.: A Textbook of Roentgenology. Balt., William Wood & Co. 1936.
The Harvey Lectures, 1934-1935. Ser. 30.
Huddleson, M. P.: Food for the Diabetic. N. Y., Macmillan. 1934.
Imperial Cancer Research Fund, 11th Scientific Report. 1934.
Kitchin, T. D.: The Doctor and Citizenship. Bost., Christopher Pub. House. 1934.
Kovacs, Richard: Electrotherapy and Light Therapy. Phil., Lea & Febiger. 1935.
Lewis, Sir Thomas: Clinical Science. London, Shaw & Sons. 1934.
Livingstone, W. K.: The Clinical Aspects of Visceral Neurology. Balt., Thomas, 1935.
McKinley, E. B.: A Geography of Disease. The George Washington Press. 1935.
Medical Profession and the Public. Phil., Amer. Academy of Political and Social Science. 1934.
Modern Conccpts of Cardiovascular Disease. (From Amer. Heart Journal), 1932-1935. vols. 1-4. New York, Amer. Heart Assoc. 1936.
Osler, Sir William: The Principles and Practice of Medicine. Revision by Thomas McCrae. N. Y., D. Appleton-Century. 1935. 12th ed.
Peters, J. P.: Body Water. Baltimore, Thomas. 1935.
Present Status of the Problems of Rheumatism. Reprinted from Annals of Internal Medicine, April, 1935.
Proceedings of the Charaka Club. v. 8. N. Y., Columbia Univ. Press. 1935.
Second Symposium on Silicosis; an Unofficial Transcript of the Second Symposium Held in Connection With the Trudeau School of Tuberculosis at Saranac Lake, N. Y., June 3 to 7, 1935.
Speed, Kellogg: A Text-book of Fractures and Dislocations. 3rd ed. Phil., Lea & Febiger. 1935.
Thursfield, Hugh, and Paterson, Donald, Editors: Diseases of Children. Balt., William Wood & Co. 1934.
Weiss, Samuel: Diseases of the Liver, Gall Bladder, Ducts and Pancreas; Their Diagnosis and Treatment. N. Y., Hoeber. 1935.
Whitby, L. E. H., and Britton, C. J. C.: Disorders of the Blood. Phil., Blakiston & Co. 1935.
Whitman, Royal: A Treatise on Orthopedic Surgery. 9th ed. Phil., Lea & Febiger. 1930.
Wigglesworth, V. B.: Insect Physiology. London, Methuen & Co. 1934.
Winton, F. R., and Bayliss, L. E.: Human Physiology. Phil., P. Blakiston Son & Co. 1935.
Wolf, A.: A History of Science, Technology and Philosophy in the Sixteenth and Seventeenth Centuries. N. Y., Macmillan. 1935.

Purchased for the Library by the Denver Clinical and Pathological Society from the Fosdick Jones Collection

Piery, M., and Roshem, J.: Histoire de la Tuberculose. Paris, G. Doin. 1931.
Lyle, H. W.: King's and Some King's Men. London, Humphrey Milford. 1935.
Wheeler, J. B.: Memoirs of a Small Town Surgeon. N. Y., Stokes. 1935.
Riesman, David: The Story of Medicine in the Middle Ages. N. Y., Hoeber. 1936.
Maclean, L.: An Inquiry Into the Nature, Causes, and Cure of Hydrothorax. Hartford, Hale & Hosmer. 1814.
Ricketts, H. T.: Contributions to Medical Science. The Univ. of Chicago Press. 1911.
Jenner, Sir William: Clinical Lectures and Essays on Rickets, Tuberculosis, Abdominal Tumors, and Other Subjects. N. Y., Macmillan. 1895.
The Medical Repository and Review of American Publications on Medicine, Surgery, and the Auxiliary Branches of Science. Conducted by Samuel Latham Mitchell and Edward Miller. N. Y., T. & F. Swords. 1804-1805. v. 1 and 2.
Sanctorius. Medicina Statica; Being the Aphorisms of Sanctorius, Translated Into English With Large Explanations. 5th ed. London, T. Longman. 1737.

Purchased for the Frank W. Kenney Collection From the Income of the Kenney Trust Fund

Beaman, A. G.: A Doctor's Odyssey; A Sentimental Record of Le Roy Crummer. Balt., The Johns Hopkins Press. 1935.
Carrel, Alexis: Man, the Unknown. N. Y., Harper. 1935.
Goodwin, G. M.: Russell A. Hibbs, Pioneer in Orthopedic Surgery, 1869-1932. N. Y., Columbia Univ. Press. 1935.
Kagan, Solomon: Jewish Contributions to Medicine in America, 1656-1934. Boston, Med. Pub. Co. 1934.
Keats, John: Anatomical and Physiological Note Book; Printed from the Holograph in the Keats Museum, Hampstead. Ed. by Maurice Buxton Forman. Humphrey Milford, Oxford Univ. Press. 1934.
Slemons, J. Morris: John Whitlidge Williams; Academic Aspects and Bibliography. Balt., The Johns Hopkins Press. 1935.

The report was referred by President King to the Reference Committee on Miscellaneous Committee Reports. Next was the report of the Committee on Cooperation with Allied Professions. It reads:

REPORT OF THE COMMITTEE ON COOPERATION WITH ALLIED PROFESSIONS

August 19, 1936.

To the House of Delegates:

The Committee has had no formal meetings during the year but has held itself in readiness for any work relating to the allied professions. At the request of the Colorado Pharmacal Asso-

ciation, Dr. Harry Bryan was chosen to address them as a representative of your Society.

Your chairman, as a member of the Advisory Committee to the State Board of Nurse Examiners, has held monthly meetings with the Committee. A tentative draft of the Policies, Regulations, and recommendations for the Accreditation of Colorado Schools of Nursing has been completed and copies sent to each organization interested for criticism and study. The final draft will be made within the next few months and a copy placed with the Society.

JOHN R. EVANS, Chairman.

The report was referred to the Reference Committee on Legislation and Public Relations, and Dr. King called for the report of the Committee on Medical Economics.

Dr. Wasson: "In spending some nine months in thinking over some of the fundamental things in regard to the practice of medicine and submitting a report here, we have as a committee fulfilled our constitutional obligation.

"However, there are certain things that I feel should be emphasized to this House of Delegates.

"Medical economics is a difficult subject; it is a very difficult one for us to grasp. I often think of it like the man in the parade. He is going along. He can't see what is ahead of him and he doesn't see what is behind him.

"But the Committee this year has tried to step aside from that parade and somewhat analyze the situation we have within our own state. We find that in contacting the men of the Society and raising a discussion with them at any time on the subject of medical economics, that we get just as many opinions as we have contacts. In other words, there are just about as many opinions upon the subject of medical economics and what is the matter with it as there are members of our Society.

"Certainly all of those opinions cannot be correct, and we feel, as a Committee, that we in the State of Colorado are behind what has been accomplished in some of the other States. We wonder just what this will mean to us in the future. We have wondered whether the profession of our State will awaken to the situation voluntarily or whether they will require a crisis to awaken them to the situation.

"There are those of us who feel that no matter what happens, our patients will be loyal to us and will return to us for their medical care. I think that is not justified. Certainly it has not been the experience in other communities and I hardly think we can expect it in Colorado.

"Again it isn't necessary to call attention of the House to what has happened in the past,—how inroads have been insidiously made on the practice of medicine.

"If you can visualize what may happen, either in the rural communities or in the large cities, by the inroads of large insurance companies, then you can visualize what may at any time happen to us.

"In the past few months there were at least four companies that came to the Medical Economics Committee asking for recognition for the selling of so-called health insurance. We turned those people down, but taking a negative position in the situation is not accomplishing anything.

"If these companies do not need the recognition of the Medical Economics Committee, or even of our State medical profession, and they can go ahead and sell this insurance and, once it is sold, dictate to the profession, then I think they will do so. I doubt if that day is far distant.

"So I feel that the moral responsibility of this Committee is to urge the House of Delegates to take some recognition of these problems.

"There are no new problems before the profession. The practice of medicine is as good today as it has been. It is just the age-old problem of the medical profession on the one hand, the public on the other hand, and the entrance into the medical profession of a third party.

"That third party may be misguided, but nevertheless those people are here, and we must organize ourselves for a higher efficiency in the practice of medicine. That must come.

"I realize that the Committees have reported this problem to you many times in the past, but I do want to call your attention to the fact that we have nothing in our organization today to meet this situation."

The printed report follows:

REPORT OF THE COMMITTEE ON MEDICAL ECONOMICS

August 17, 1936.

To the House of Delegates:

During the year 1935-36, the Committee was rather free from many of the usual current problems and devoted most of its time to the consideration of the fundamental changes which are insidiously taking place within and about the practice of medicine. Early in the year a work program was made for the succeeding months, a copy of which is available to your Reference Committee. The current problems which were presented were mostly those of applications for approval of insurance plans and these were all refused recognition. The Committee through its chairman held several conferences with the Medical Economics Committee of the State Dental Society and the representatives of other groups associated with the practice of medicine, for the consideration of some improved method for the care of the indigent and semi-indigent, and particularly of the plan in operation in Washington, D. C. A conference was also had in Kansas City with Dr. Arthur Christie of Washington, D. C., who gave us detailed and first-hand information concerning their approach to their medical problems and as to their final conclusions. A conference was also held in Chicago with Dr. Leland, of the American Medical Association, at which time information was obtained from the American Medical Association as to the various plans for the care of the sick which are now in operation in the United States, and similar information has been had from our own Executive Secretary from his contacts with the other State Medical Societies. In other words, considerable time has been spent on the part of the Committee in collecting information as to the present status of medical economics, as to what is being done about it in other cities and states, and as to what might be done in the State of Colorado. The members of the Committee have responded at all times to the call of the chairman and the meetings were also attended by President King, who showed a special interest in the economic problems which are confronting us. The Committee also wishes to especially commend the helpful cooperation of the Executive Secretary.

In the construction of our working program Dr. Hutton was requested to investigate the present status of medical care of the indigent in the City and County of Denver. Dr. Hillkowitz was requested to collect information concerneing the contracts of the County Physicians. As a result of such studies, the various conferences men-

tioned, and the deliberations of your Committee, the following conclusions have been made:

1. The indigent class receive excellent medical attention and there is no unusual medical situation in Colorado today. It is, rather, the old problem of adjustment between the medical profession on the one hand and the people on the other which has been going on through the ages.

2. There is, however, a new party entering into the practice of medicine, and that is the third party with outside interests. This third party is injecting itself into the practice of medicine partly for selfish reasons and partly from misguided attempts to aid in the practice of medicine. This third party is insidiously changing the practice of medicine and will continue to do so in spite of any return to a state of normal economics in our country.

3. The medical profession should further perfect its methods for the care of the sick and be in a position to forestall those schemes which in the end will react against the people and for an inefficient practice of medicine. In perfecting its plans for the future practice of medicine the following points are respectfully submitted.

(1) Any plan or legislation concerning the practice of medicine should give equal consideration to the people on the one hand and the medical profession on the other.

(2) The private physician has been and still is the backbone of the medical profession and there should be maintained a free choice of the private physician.

(3) A diagnosis is not machine made, but is made only by direct expenditure of mental energy and does not lend itself to mass production.

(4) It is necessary that the fee level be so maintained that by proper industry and organization a physician can obtain for himself certain hours of leisure for rest and scientific study.

(5) The care of the indigent should be so organized that the information obtained can be utilized for the teaching of the young practitioner and should be under the guidance of the older physician. However, the older physicians should not give so much time to clinic practice that they neglect the proper care of their private patients.

(6) It must be remembered that 40c to 60c out of every dollar paid by the patient goes towards the physician's overhead expenses. It is interesting that no small part of this overhead expense is directly and indirectly paid to large corporations for the manufacturing of articles pertaining to the practice of medicine. In some cases large corporations depend entirely for their support upon the efforts of the physician.

(7) A closer affiliation should be had with the local retail credit men's associations.

(8) There are many activities on the part of the State and Government and endowed institutions which require investigation on the part of the State Society.

(9) A more intensive course in medical economics should be taught in our medical schools.

(10) It has been observed by the Committee that our hospitals are in the habit of making reduced rates to certain industrial groups and in many cases these reduced rates are less than the hospital's costs. As a result this loss is made up by an increased rate to the patients of the private physicians.

(11) Many insurance plans have been presented to your Committee for approval during the past year and many similar plans are being formulated by interests outside of the medical profession. To merely deny these people recognition is not sufficient. More positive action should be taken on the part of our profession so that we can either finance the care of the sick or be in a position to direct such financing.

(12) Already as a result of the operations of certain insurance policies and industrial groups there has been an undercutting on the part of the physicians, because of the pressure brought by these insurance companies and the industrial corporations.

(13) It is the belief of your Committee that the County Physician in most of the counties is definitely underpaid.

(14) Any organized and extensive effort to benefit the present status of the practice of medicine or rather to maintain the present high standards of the practice of medicine will be met by resistance on the part of the individual physicians because of a lack of appreciation of the dangers which even now confront the practice of medicine, and from a lack of an intelligent understanding of medical economics.

In concluding this report, it is the opinion of your Committee that the first efforts in perfecting our organization for the future practice of medicine should be directed towards the education of the medical profession in the general subject of medical economics. Such approach to the problem has worked well in other states. This is the one recommendation which your committee wishes to make.

Respectfully submitted,

W. WALTER WASSON, Chairman,
PHILIP HILLKOWITZ,
J. G. HUTTON.

The report was referred to the Reference Committee on Medical Economics and Federal Medical Services.

Next in order was Reports of Special Committees, first of which was that on Post-Graduate Clinics, by Dr. W. T. H. Baker, Chairman of the Committee.

Dr. Baker: "The report as you have seen it goes into generalities without going into much detail. Clinics were held in Denver, as you know, during the mid-winter. They were very well attended and gave us an opportunity of hearing a good many men who were rather new to the profession,—that is, as far as their appearance before the profession in a literary way is concerned. I think the clinics were probably of greater interest, having more practical papers, than we have had in previous years.

"As stated in the report of the Committee on Post-Graduate Clinics, one of the things which we noticed was the small percentage of Denver men who attended their own clinics. We had a larger percentage of people from outside of the city of Denver attending the Denver Clinics than we had from Denver itself. That is something that ought to be corrected.

"In Pueblo, clinics were held in five different hospitals in the city, and we had attempted to stress a little bit more the social side than we did in times past. As you know, our President addressed us on "The Doctor in Politics." Mr. Paul Clark talked to us on a subject pertaining to medical insurance and other speakers appeared on subjects which were of vital importance to the entire profession.

"The Clinics are being conducted and are being received, I think, better with each succeeding year. We feel as though they should be continued. We have raised the question in our report as to whether or not it is advisable for more clinics to be instituted throughout the State, and

it is the consensus of opinion among the majority of the members of this Committee as it has existed this past year that no more clinics should be sponsored by the State Society at the present time. That, however, is a matter that the House of Delegates has entirely in its power, and of course we will abide by your decision.

"It was the intention that a clinic be held in Kit Carson County, at Cheyenne Wells, but for some reason that did not materialize. They felt they could not very well carry out the Clinic under existing conditions. As you know, Clinics were held there a year ago, rather satisfactorily, and perhaps they may be continued at some future date.

"It has been suggested that Clinics should be held in towns like Greeley and Grand Junction, but that they should be sponsored and controlled entirely by the local Society."

The report reads as follows:

REPORT OF THE COMMITTEE ON POST-GRADUATE CLINICS

August 7, 1936.

To the House of Delegates:

The Committee appointed by your worthy President, Dr. W. W. King, to take charge of the post-graduate clinics wish first to thank Dr. King for giving to them this most important work. Each and every one of us feels that we were honored in being chosen to carry on such important duties.

The Committee after its appointment met and organized, and it proved to be an organization in deeds as well as words. At no time was there any hesitancy in doing what was to be done, and at each meeting frank, free and full discussions were held and matters adjusted without rancor or discord.

The Mid-Winter Clinics were held in Denver, during Stock Show Week. Places of meetings were the Denver General, Children's, and Colorado General Hospitals. The programs presented at each of these institutions were excellent. Much favorable comment was given by the visiting physicians, and especially praise of the manner in which the young men of our profession presented their cases.

The attendance at the Mid-Winter Clinics was good, but we feel that as yet the majority of our profession have failed to recognize the great good which may be had at these meetings. It was particularly noted that Denver physicians do not attend in as good percentage as those from the other points in the State.

Spring Clinics were conducted in the same manner as the Mid-Winter Clinics, except more attention was paid by the Puebloites to the social side, without detracting from the scientific.

At both Denver and Pueblo the same plan of procedure has been followed as regards registration. All parties attending the clinics are required to register, and upon payment of one dollar ($1.00) they are entitled to all privileges. This plan has been successful in providing financial support of the enterprises.

It is the opinion of your Committee that these clinics have demonstrated their worth and as such should be encouraged to continue. It is, however, a mooted question with us as to whether more clinics in the State should be established. Several of our members feel that we are asking too much of the profession by starting, or rather sponsoring, clinics elsewhere in the State than now exist. In other words, they feel that should other localities desire to conduct clinics for the profession in their immediate vicinity, they should do so upon their own responsibility and not as a part of The State Medical Society program.

We wish at this time to thank the various officials of the respective hospitals for the courteous and efficient manner in which they cared for us. Everyone who had the good fortune to attend these clinics has a tender and sincere affection for you and your organizations, and without your aid no clinics could be held.

Full details of registration, number and names of speakers who appeared upon the programs are in the possession of our Executive Secretary and are available for inspection if desired.

Respectfully submitted,

W. T. H. BAKER, Chairman,
JOHN M. FOSTER, JR.
JOHN B. DAVIS,
G. M. BLICKENSDERFER,
LEONARD N. MYERS.

The report was referred to the Reference Committee on Miscellaneous Committee Reports. The President then called for the report of the Committee on Cancer Education. In the absence of Dr. Finney, the Chairman, Dr. Unfug presented the report as follows:

REPORT OF THE COMMITTEE ON CANCER EDUCATION

August 14, 1936.

To the House of Delegates:

This Committee followed in the past year the same procedure of the three previous years. It appointed six teams of three physicians each, each team representing the specialties of gynecology, pathology, and radiation therapy. It then invited the county societies to avail themselves of a symposium entitled "Cancer of the Female Genital Tract." The six teams, three from Denver, one from Colorado Springs, and two from Pueblo, were assigned to districts of the state so that invitations from county societies would be answered by the team nearest to the society.

The Arapahoe, Eastern Colorado, Fremont, Northeast Colorado, Otero, Prowers, and Pueblo societies availed themselves of the symposium this year. This is the smallest number of local societies using the cancer teams in any year since the plan was started, and we regret that more societies did not use them.

Unless the House of Delegates should instruct otherwise, the Committee will continue its regular program of activity for another two years, as originally instructed by the House when the Committee was created.

HARRY S. FINNEY, Chairman.

Dr. Unfug: "I have a resolution to introduce in regard to Cancer Education, and as a member of the Committee on Cancer Education, I would like to ask permission of the House to allow Dr. Sanford Withers, who is Acting Chairman of the State for the American Society for the Control of Cancer, to introduce this resolution personally and make any comments that he may desire. If the House of Delegates will allow that, I will appreciate it."

President King: "Unless there is expressed objection on the part of any member, Dr. Withers will have the floor."

Dr. Withers read the following proposed resolution:

RESOLUTION

"Whereas, The American Society for the Control of Cancer through its Colorado representatives has

been assured the cooperation of the Colorado State Board of Health and the following church denominations:

"Catholic Church—Rt. Rev. U. J. Vehr, Bishop of Colorado Dioccse;

"Protestant Episcopal Church—Irving P. Johnson, Bishop, Diocese of Colorado;

"Methodist Episcopal Church—George F. Klein, Superintendent, Denver-Grand Junction District;

"Baptist Church—Rev. F. B. Palmer, Executive Secretary;

"Congregational Christian Church—Rev. V. V. Loper, Pastor, First Plymouth Church, Denver;

"Reformed Jewish Church—W. S. Friedman, Rabbi, Beth Ha Medrosh Hagodol, Denver;

"American Lutheran Church—Rev. Joseph Conrad, President, Rocky Mountain District; Rev. G. C. Becker, Pastor, Washington Park Lutheran Church;

"United Lutheran Church—Rev. L. H. Steinhoff, President, Rocky Mountain District;

"Evangelical Lutheran Church (Missouri Synod)—Rev. E. E. Peters, Institutional Pastor of Lutheran Church;

"Disciples of Christ—Rev. C. C. Dobbs, Executive Secretary;

"American Unitarian Association—Rev. Charles A. Wing, Pastor, First Unitarian Church of Denver;

"Church of Jesus Christ of Latter-Day Saints—Joseph J. Daynes, Mission President of Western States Missions.

Dr. Withers (interpolating): "The above organizations have approved of this resolution and I am informed that the Board of Directors of the Denver Public Health Council have approved of it; I am also informed that the matter was brought to the attention of the Presidents' Round Table Club and various luncheon clubs—Kiwanis, Rotary, etc.—and a tentative approval of the program has been presented by the Presidents of the Presidents' Round Table.

"I have a letter from the New York office of the American Society for the Control of Cancer saying that the Federated Women's Clubs of the United States has also approved of the program.

"This is the seventeenth State in which it has been recommended or approved by the State Medical Society.

"Whereas, The above organization (the representatives of the American Society for the Control of Cancer) has obtained the assurance of such funds as are necessary for the conduct of a program of Public Health education with special reference to the nature of cancer and its proper treatment, and

"Whereas, The above organization has formulated complete plans for the carrying on of a cancer campaign in this State, and

"Whereas, It is the desire of the representatives of the above agencies to make no more effort toward the inauguration of this campaign without the approval of the House of Delegates, and

"Whereas, The Colorado State Medical Society, through its Committee on Cancer Education, has approved of this campaign and deems the same worthy of its cooperation; now, therefore be it

"Resolved, That the House of Delegates approves this campaign and bespeaks the support of the officers and individual members of the Colorado State Medical Society.

"Respectfully submitted,

"Sanford Withers,
Acting Chairman,
"Roy L. Cleere,
"George B. Kent,
"Charles B. Kingry."

President King referred the printed report in the Handbook to the Reference Committee on Miscellaneous Reports, and the resolution presented by Dr. Withers was referred to the Reference Committee on Resolutions and New Business.

Dr. King then called for the report of the Committee on Tuberculosis Education, as follows:

REPORT OF THE COMMITTEE ON TUBERCULOSIS EDUCATION

August 18, 1936.

To the House of Delegates:

The Committee on Tuberculosis Education has held symposia at the request of the respective medical societies in the 1935-1936 year at Sterling, Grand Junction, and Monte Vista, and a meeting is under schedule for Steamboat Springs for Aug. 27, 1936. Drs. Charles Kaufman, Wiley Jones, and J. S. Bouslog addressed the Northeast Colorado Medical Society; Drs. J. B. Crouch and C. O. Giese spoke at the meeting of the Mesa County Medical Society; Drs. C. E. Harris and C. O. Giese addressed the San Luis Valley Medical Society, and Drs. C. L. Lincoln and Wiley Jones will address the Northwestern Colorado Medical Society.

CHARLES O. GIESE, Chairman.

The report was referred to the Reference Committee on Miscellaneous Committee Reports.

The report of the Advisory Committee to the School of Medicine was requested by the President.

Dr. Madler: "I wish I might say that the Committee had nothing to add to the report as printed in the Handbook but, as noted in the Handbook, a complaint alleging a number of ineligible admissions to the Colorado General Hospital was received by this Committee subsequent to the writing of the annual report.

"A special meeting of the Committee, attended by all its members, by the complainant, by the Dean and Superintendent of the Hospital, and by the Constitutional and Executive Secretaries of the Society, was held August 28, 1936, to consider the matter.

"At this meeting the Committee became aware that a number of other complaints have been widely discussed among prominent members of the Society, although no other member of the Society has seen fit to lay these complaints formally before the Committee.

"After exhaustive discussion, the Committee found itself unable to propose any definite solution of the problems which these complaints create. The Committee found itself referring back constantly to its previous reports to the House of Delegates, wherein the Committee has repeatedly reported that admission of ineligible patients to the Colorado General Hospital are traceable primarily to the political activity of certain Boards of County Commissioners who will ignore the basic purposes of the Hospital to certify their political friends to that institution for treatment.

"Other ineligible admissions can be laid largely at the door of our own Society members who occasionally refer patients, who should have private care, to the Colorado General Hospital rather than to a competing physician.

"Since this Committee finds itself unable to offer any constructive solution of the existing problems at this time, we recommend that the House of Delegates declare an open meeting of the House, giving every member of the Society the right to the floor, at or near the close of that meeting of the House which is scheduled for 5 p. m. Thursday, September 11, 1936.

"We recommend that the House at that time listen to the complaints which this Committee has heard, and listen also to the explanation of these situations as offered to this committee by representatives of the Hospital.

"In anticipation that the House may accept our recommendation, we have urged those members of the Society known to have complaints concerning what has become known as 'the Colorado General Hospital problem,' to be present at 5:30 p. m. Thursday, September 11, 1936. Toward this same purpose we have asked the Hospital to have its representatives present.

"It is this Committee's hope that from the broader field of this House of Delegates, constructive suggestions may be offered.

"Mr. President, the Committee does not wish to

sidestep any issue which might pertain to this problem, but because this thing has come before previous Committees time after time without solution, and because some of the members of the Committee believe that the only solution to this problem lies in a change of the law which governs the admission of patients to the Hospital, we feel that this matter should come before the House of Delegates, because to bring about a change in the law—if that should be the solution of this problem—the united effort of all the members of the Society rather than the limited efforts of a small committee of the Society, is needed.

"Mr. President, I move that the recommendation of the Committee as made in this supplemental report be adopted."

Motion was seconded by Dr. Schoen and carried.

Dr. Gilbert: "Mr. Chairman, I would like to raise the question as to whether or not some friendly advice isn't also due the Board of Regents concerning the tendency more and more to compete with private practice, using their overhead, which we are providing as taxpayers, in order to offer a competition which others cannot meet.

"I have in mind particularly the gradual spreading of the so-called Health Service, which was voted down this year by the students by a very, very small majority, wherein the School would establish a Service Physician and put him in charge of the student work up to a certain point. There was supposedly a limit to which that would go, but it would undoubtedly develop along the Ann Arbor plan, where the work is practically taken over by the Board of Regents.

"We feel that it is not wholesome, and not fair, that money paid in as taxes by the physicians, along with others, should be used to carry on the overhead and furnish the facilities offered by a University in order to compete with the private physician's work.

"If that work is carried through another year—and there is very great likelihood that it will—not only are we going to be immediately concerned but I am sure, Dr. Madler, it will soon extend to your institution at Greeley, and on more and more to the institutions which are more or less supplementary to it. It is just going to be an opening wedge for all sorts of State Medicine or State competition with the private physician.

"I wonder if this Committee isn't the proper one to take up this matter and be prepared to advise the Regents, if they want our advice along that line."

President King: "The Reference Committee should take into consideration the remarks of Dr. Gilbert. It would not seem at all inappropriate for that to be included in the discussion at the meeting proposed, on which the motion was just carried."

Dr. King called for the report of the Advisory Committee to the State Department of Health.

Dr. Amesse: "I have nothing to add except this: That the American Medical Association feels that inasmuch as the Social Security Act is now a law, that we as a profession should do nothing to obstruct it, regardless of what our individual opinion or our collective opinion might be.

"Our Committee has met with the most wholesome cooperation. Every facility of the State Board of Health has been open to us and I feel that when these agents, who are members of this Society, go into your communities they should have the same encouragement and cooperation that we have had in the care of the crippled child, the dependent child, and the institution of maternal and child welfare clinics.

"The attitude of the American Medical Association is this: That if the medical profession itself does not cooperate with the constituted authorities, the State Boards of Health, that this work will be taken over by lay groups to the very great disadvantage of medicine.

"When we want to stop a run-away horse, Mr. President, we don't want to run directly at it. We grasp it by the bridle and we run with it and we finally get it down to a slower pace, maybe to a walk, and maybe stop it altogether.

"I believe that we ought to carry out the functions of the administration of this Act in good spirit."

The report as printed in the Handbook follows:

REPORT OF THE ADVISORY COMMITTEE TO THE STATE DEPARTMENT OF HEALTH

August 17, 1936.

To the House of Delegates:

In presenting this report of an entirely new committee, it is obvious that without the cordial reception and earnest cooperation of the State Board of Health, our duties would have been of a most perfunctory character.

It is a distinct pleasure therefore to acknowledge officially, as we have privately, the continued good will and courtesy of the responsible officers of this division of our state administration. The vital machinery of new enactments, affecting the fortunes of young and old in every portion of Colorado, were discussed in frequent conferences with the sole view of efficient and economic administration, and for the integration of all factors which might possibly be concerned in this consummation.

Immediately after the designation of members, in the Fall of 1935, a session was devoted to the completion of arrangements for carrying into effect the provisions of a resolution from this body concerning the safeguarding of professional interests in certain routine laboratory examinations. We were assured that every effort would be made to restrict this work exclusively to the field of indigency through the affidavits suggested.

All of the subsequent sessions in which your committee could, on occasion of emergency, be represented by one or more members, were devoted to the development of a comprehensive program for the administration of the social security act in so far as it pertains to the care of crippled children, maternal and child health and public health education.

In this connection it will be of interest to the Delegates to review briefly the opinion of the Reference Committee on Legislation and Public Relations presented at the Kansas City session of the American Medical Association. In commenting on the report of the Bureau of Legal Medicine it called attention especially to the suggestion of the latter agency that the medical profession cooperate in good faith in carrying out the provisions of the security act. The committee desired, however, "to emphasize the fact that the basic requirements of federal legislation are so broad as to permit the creation within the state social legislative structure of conditions which may be very difficult of administration in a manner acceptable to physicians if the local profession does not participate in the organization of the state structure."

This conception of the attitude of American medicine toward the existing social security laws was unanimously endorsed by the House of Delegates, and it has been the stimulus for our efforts in the name of the State Society.

A preliminary report of the plans jointly out-

lined for effective programs in the care of crippled children and in maternal and child health was published in the August number of Colorado Medicine; these details will therefore be omitted from our formal report. In addition, a comprehensive outline of the privileges and limitation of the act, in the form of a letter, has been forwarded to the secretaries of our component societies through the kindness of the executive secretary.

There will be many problems to meet in this new sphere of activity as time goes on, but we believe our membership may feel assured that the best interests of medicine will be conserved.

ADVISORY COMMITTEE TO THE STATE DEPARTMENT OF HEALTH,
By J. W. AMESSE, Chairman.

Dr. Kenneth D. A. Allen: "Mr. President, could I make a remark at the instigation of Dr. Hillkowitz, direct to Dr. Amesse, before we go on?"

President King: "Surely."

Dr. Allen: "Dr. Amesse, the pathologists would like to have you discuss the activities of the State Board of Health in doing Wassermans on private patients throughout the State."

Dr. Amesse: "Mr. President and Dr. Hillkowitz: The first meeting of our Committee last Fall, as shown in our report, was dedicated to this subject, to the carrying out of resolutions passed by this House on two occasions, providing that physicians should furnish either affidavits or statements equivalent to an affidavit that Wassermans requested of the State Board of Health should come from those in the indigent classes who were unable to pay for such examination.

"We were assured by Dr. Haralson, who was Acting Secretary of the State Board of Health at that time, that this would be carried out. Whether it has been or not I do not know but it was a gentlemen's agreement. If Dr. Hillkowitz has any evidence to the contrary, I am sure we would all be glad to hear it."

Dr. Hillkowitz: "May I have the privilege of the floor?"

Consent was granted.

Dr. Hillkowitz: "Our relations with the State Board of Health have always been of the most friendly character. The President and Secretary of the State Board of Health told me recently that they have printed forms in which they ask an affidavit to be made, but that everybody disregards those forms—that they are practically a dead letter—and that they accept any kind of specimens that are sent to them without going behind the returns.

"I get this from no less an authority than the President and the Secretary of the Board. I would therefore suggest that the incoming committee see that there is a little more persuasion used in the State Board of Health to see that this is carried out promptly.

"I am speaking in behalf of the movement to limit the extension of State Medicine, and I see it is already extending into other quarters, not alone in the field of pathology but also going into the path of the private practitioners. I am sure it will have a more sympathetic response from the general profession."

President King: "We will refer this report to the Committee on Medical Economics and Federal Medical Services and again, will this Committee please consider the remarks of the gentlemen who have just spoken, in addition to the report as it appears in the Handbook?"

The President called for the report of the Committee on Military Affairs, which was as follows:

REPORT OF THE COMMITTEE ON MILITARY AFFAIRS

August 10, 1936.

To the House of Delegates:

No matters requiring activity on the part of this Committee have come to the attention of the Committee this year, and the Committee therefore has nothing to report other than its continuing willingness to represent the Society in any military questions which arise.

G. P. LINGENFELTER, Chairman.

The report was referred to the Reference Committee on Medical Economics and Federal Medical Services.

The Report of the Advisory Commitee to the F. E. R. A. was as follows:

REPORT OF THE ADVISORY COMMITTEE TO THE F. E. R. A.

August 10, 1936.

To the House of Delegates:

This Committee was appointed to carry on the advisory work, fee adjustments and advisory board authority jointly with the relief administration that for two previous years was done by the Committee on Medical Economics. However, the medical work of the F. E. R. A. was discontinued by the government about the time of the last Annual Session of the Society, and this Committee's work was confined largely to a wind-up of F.E.R.A. medical matters and final adjustment of late bills.

At the same time the Works Progress Administration began, and the Board of Trustees assigned this Committee the work of advising that incoming administration. The Committee organized for this work, and submitted for the Society a fee schedule corresponding in most respects to the State Industrial Commission Fee Schedule, though with x-ray and certain other individual items raised above the state schedule. The W. P. A. and its medical department, the latter under the United States Employees Compensation Commission, adopted our suggested schedule in most instances. The W. P. A. has assured this committee that it has been and will continue to enforce a free choice of physician policy in connection with the treatment of injuries to W. P. A. workers.

Only two complaints concerning the W. P. A. medical work have reached this Committee, both of them last winter, and they have been adjusted.

F. JULIAN MAIER, Chairman.

The report was referred to the Reference Committee on Medical Economics and Federal Medical Services.

The report of the Committee on Gratuitous Medical Service, as follows, was presented:

REPORT OF THE COMMITTEE ON GRATUITOUS MEDICAL SERVICE

August 12, 1936.

To the House of Delegates:

All of the preliminary and basic work toward a guide, or set of regulations, for the granting of gratuitous medical service other than as such is granted individually to individual private patients was done in the preceding two years by this Committee's predecessors. Therefore, this Committee's task seemed to be confined to an endeavor to bring about adoption of the regula-

tions by those institutions and organizations which call upon physicians for gratuitous service.

The Committee had several thousand sets of the regulations printed, with an explanatory preamble, under the title "Guide to Gratuitous Medical Service." A supply of these pamphlets was sent to every constituent society. As nearly as possible, a copy was placed in the hands of every social worker, welfare worker, public health nurse, and all institutions and organizations in the state that would have any occasion to dispense gratuitous medical service.

The Committee throughout the year invited criticisms and suggestions and in the guide itself published an open invitation of this nature. It is perhaps remarkable that very few suggestions have reached the Committee in spite of these invitations.

Under the authority granted this Committee by the House of Delegates one year ago, the Committee at a recent meeting voted to change the figures in Article 1, Section 3 (page 6 of the printed guide), to read as follows: A married couple $60.00 a month; a married couple with one child $70.00 a month; each additional child $10.00 a month. In making this change the Committee took into consideration particularly the increased cost of living which has been apparent during the year, together with the fact that even one year ago there seemed to be doubt in the minds of many members of the House of Delegates as to whether the figures adopted at that time were high enough. In this connection the Committee wishes to stress again the flexibility of all figures in the guide so that each case can be judged individually with consideration of many factors aside from the income figure.

The Committee recognizes that with improved economic conditions there is less urgent need for enforcement of these regulations than existed in the previous three years. However, we recommend continuing the use of the amended guide throughout the following year. We further recommend that research along these lines be pursued during these better times when the research itself is not needed, so that we will keep these ideas alive and always be prepared against a period of depression.

LORENZ W. FRANK, Chairman,
R. W. ARNDT, Vice Chairman,
DAVID A. DOTY,
F. O. KETTELKAMP,
ROYAL H. FINNEY,
CLAUDE E. COOPER. Special Adviser.

The report was referred to the Reference Committee on Medical Economics and Federal Medical Services.

The report of the Committee on 1937 Rocky Mountain Joint Meeting was as follows:

REPORT OF THE COMMITTEE ON 1937 ROCKY MOUNTAIN JOINT MEETING

August 5, 1936.

To the House of Delegates:

This Committee wishes to incorporate in its report articles which have appeared in Colorado Medicine from time to time in the last year, giving details of the Committee's work. Particularly we refer to the following: "1937 Plans Are Well Received," page 339 of the May issue: "1937 Meeting Plans Move On Apace," page 412 of the June issue, and "New Mexico Appoints Joint Meeting Committee," page 480 of the July issue. In the first named of these articles, detailed questions are presented, which must be answered jointly by the State Medical Societies which decide to take part in the proposed joint meeting.

At this writing, The New Mexico Medical Society has formally joined with us in the undertaking for a four-or-more-state meeting in Denver in the summer of 1937. State officers and key county societies of Wyoming and Utah have received the plan favorably. The respective Houses of Delegates of these two states will meet but a few days before our own 1936 Annual Session, and such actions as may then be taken will be reported verbally to this House. Your Committee is very hopeful that the formal actions will be favorable to the 1937 plan. While Texas cannot well take part as a state, its Panhandle District Medical Society is interested and a good attendance from that district would seem to be assured.

Even with no dates or other details yet determined, interest in our Society's project is developing in many quarters, and kind offers of assistance have reached your Committee from both within and without the state.

Subject to such modifications as may be necessitated by actions of the Wyoming and Utah societies in late August and early September, your Committee offers the following recommendations:

1. That a special committee be created at once with the following powers and duties:

a. In cooperation with the properly appointed representatives of the other participating states, to select dates, meeting places, and a formal name for the session.

b. In cooperation with the same representatives, to arrange jointly the complete program of the session.

c. To accept for the session, either in the name of this Society or jointly with the other states in the name of the joint session, scientific and commercial exhibits.

d. To fix registration fees, if any, prices for any special events which the Committee may decide to include, and prices of commercial exhibit spaces, all in cooperation with representatives of the other participating State Societies.

e. To arrange for printed programs, advertising, and general publicity of the sessions, and for the distribution of this material; to arrange for identification badges, registration and all other supplies required by such a session; provided that any costs to be incurred by this Society shall first be approved by the Board of Trustees.

f. To create and appoint sub-committees as may be needed to relieve the principal committee of specialized parts of its work.

2. That the above-mentioned Special Committee be appointed by the President, subject to confirmation by the Board of Trustees.

3. That policies heretofore recommended by this Committee in the above-mentioned Colorado Medicine articles be approved.

4. That the Board of Trustees be empowered to commit this Society to the formation of a permanent liaison organization between the medical societies of the Rocky Mountain States, provided such may appear advisable after the proposed joint session has been held, and provided further that any expense chargeable to this Society in the formation of such a liaison organization shall fall within the customary limitations of the annual budget.

G. P. LINGENFELTER, Chairman.

Dr. Lingenfelter: "Mr. President, since this report was printed it has been our privilege to attend the meetings of the Wyoming and the Utah Sccieties and to report that they have unani-

mously approved of the proposition. Wyoming has appointed its committee to cooperate; so has New Mexico. We have not yet learned of the appointment of a committee by the Utah Society.

"We went just a little bit further, perhaps, than we were authorized to go in that unofficially the Panhandle District Medical Society of Texas, meeting at Amarillo, also approved this and said they wanted to come in, and that men from as far away as Dallas were eager to attend this meeting.

"I think that there are probably a good many questions that will come up for this new committee to handle in conjunction with like committees from the other States, such as the type of meeting we want, the kind of program, how often meetings should be held, and just what name we want to give this meeting. Those are all things for the new committees to handle.

"In the event that it is decided to hold the meetings every two years or every three years instead of yearly, it seems to me that it would be an excellent thing to have a liaison committee appointed consisting probably of the President and Secretary and the Committee on Public Policy, to function in the interim between meetings.

"If any problems arise that need our attention, this Committee should be empowered to act."

President King requested the Executive Secretary to read the following letter:

Utah State Medical Association,
610 McIntyre Building,
Salt Lake City.

September 8, 1936.

Walter W. King, M.D.,
Hotel Colorado,
Glenwood Springs, Colo.

Dear Dr. King:

It gives me much pleasure to be able to inform you that the House of Delegates of the Utah State Medical Association, at its session held September 4, 1936, heartily approved the recommendations of our committee that this Association join with the Colorado State Medical Society and other intermountain Associations in organizing a Rocky Mountain Medical Conference; that the first meeting of this Conference should be held in Denver sometime during the summer of 1937; that meetings thereafter should be held at intervals of two years; that it should be didactic in form; that an Executive Committee made up of the President and Secretary of each Association be empowered to discuss and make necessary arrangements.

In closing, let me say that your kind letter presented by Dr. Lingenfelter was very much appreciated and we all enjoyed very much the privilege of again renewing acquaintance with Dr. Lingenfelter, who most ably presented this matter before our House of Delegates.

Kindly extend to all members of your Society our congratulations upon having completed a successful year and our best wishes for a splendid year to come.

Fraternally yours,
GEORGE N. CURTIS, M.D., President,
Utah State Medical Association.

The report of Dr. Lingenfelter was referred to the Reference Committee on Resolutions and New Business.

There was no Unfinished Business on the desk.

President King: "The next order of business is New Business. The first thing will be the formal presentation of the proposed revision of the Constitution and By-Laws."

Mr. Sethman: "Mr. President, the Board of Trustees instructed me to lay on the desk a copy of the proposed revision of the Constitution and By-Laws, drawn by the Board of Trustees with the assistance of attorneys.

"The By-Laws will have to lay over for one day, and the Constitution will lay over one year."

President King referred this to the Reference Committee on Constitution and By-Laws.

President King: "The next thing is the selection of a Committee on Nominations. May I remind the House that this Committee consists of five delegates, no two of whom may be from the same constituent society. If more than five names are nominated or if two are nominated from the same society, we will vote by secret ballot. If only five names are nominated, we can entertain a motion to direct the Secretary to cast the unanimous ballot of the House.

"Nominations are in order for the five Delegates to compose the Committee on Nominations."

Dr. Rice of Pueblo nominated Dr. George Unfug, Pueblo County.

Dr. Allen nominated Dr. Willard K. Hills of El Paso County.

Dr. Yegge nominated Dr. Gerrit Heusinkveld of Denver.

Dr. Haggart nominated Dr. Hardesty of Larimer County.

Dr. Graves nominated Dr. George N. Curfman of Chaffee County.

Dr. Campbell moved that nominations be closed; motion seconded by Dr. Atha Thomas and carried. Dr. Yegge moved that the Secretary be instructed to cast the unanimous ballot of the House for the above-named nominees. Motion seconded by Dr. Thomas and carried. The Executive Secretary cast the ballot.

Announcements were made, and there being no further business, the House adjourned until 5 p. m. on Thursday, September 10, 1936.

SECOND MEETING OF THE HOUSE OF DELEGATES

5 p. m. September 10, 1936

The session was called to order by President Markley, pursuant to adjournment.

The President asked if the Credentials Committee had any report.

Dr. J. S. Bouslog: "Mr. President, the Committee on Credentials has this letter:

"'The bearer, Dr. R. H. Fitzgerald, a member of the Lake County Medical Society, will serve as our Delegate to the 1936 meeting at Glenwood Springs.

(Signed) Dr. C. E. Condon, President,
Lake County Medical Society."

"It takes a vote of the House of Delegates to seat Dr. Fitzgereald."

The Executive Secretary called the roll and announced a quorum present.

Motion was made, seconded and carried, seating Dr. Fitzgerald.

Dr. Benell moved that the report of the Credentials Committee be accepted as amended. Seconded and carried.

The Executive Secretary read the minutes of the first meeting of the House of Delegates, Wednesday, September 9. They were approved as read.

Reference Committees were called on. The Reference Committee on Audits of which Dr. O. E. Benell was Chairman, made the following report:

REPORT OF THE REFERENCE COMMITTEE ON AUDITS

August 10, 1936.

To the House of Delegates:

The Reference Committee on Audits and Appropriations have examined and investigated the items in the report of J. Leon Hartsfield for the fiscal year ending August 31, 1936, and approve the same.

They approve the recommendation for bonding each member of the Executive Secretary's office and the Treasurer. Also, they approve and recommend adoption of Section 5, Chapter X, suggested

new By-Laws for the Colorado State Medical Society.

Dr. Benell (interpolating): "I will read that so you will know which that is.

"Section 5, Chapter X of the new By-Laws:

"No officer, Board, Commission, committee or member of the Society may obligate the Society financially in any manner or enter into any contract, agreement or other instrument either written or verbal, which might lead to or imply financial obligation unless the same shall have first been approved and authorized by vote of the Board of Trustees."

"We considered that rather carefully and approve and recommend the adoption of that section."

They find upon examination of the budget for fiscal year 1936-37 that no appropriation has been made for the Colorado Medical Foundation as established at the sixty-fifth annual session of the House of Delegates, nor for the Benevolent Fund of the Women's Auxiliary. They recommend the appropriation of one hundred dollars yearly for the former, and one hundred dollars for the latter, as was done last year.

Respectfully,

O. E. BENELL, Chairman.
W. BERNARD YEGGE.
G. HEUSINKVELD.

Motion was made by Dr. Heusinkveld that the report be adopted; seconded and carried.

President Markley asked for the report of the Reference Committee on Constitution and By-Laws.

Dr. Curfman: "Your Committee was in session last evening and gave due consideration to the various articles of the new Constitution as proposed, and the By-Laws. It was no small job, and I take this opportunity of expressing my appreciation as Chairman to the members who stayed up until the small hours discussing each section.

"I assure the House that our Committee was unanimous in recommending this measure.

"In deference to our Vice Chairman, Dr. George Unfug, I would have him read our resolutions and make whatever comments he may wish to make."

Dr. Unfug presented the report, as follows:

REPORT OF THE REFERENCE COMMITTEE ON CONSTITUTION AND BY-LAWS

September 10, 1936.

To the House of Delegates:

Your Committee had a tremendous task in reviewing the entire Constitution and By-Laws as proposed by the Board of Trustees, but because of the importance of the changes contemplated serious consideration has been given each and every section and the task has been accomplished. This could not have been done without the advice and explanations given by our Executive Secretary who is much better posted on the legal questions involved than any member of the Committee. Recognition for his service in sitting with us throughout our deliberations is hereby accorded him.

It should be called to your attention that the Board of Trustees was advised in the preparation of this revision not only by able attorneys and others experienced in the draft of such documents but also in an informal manner by certain governmental officers with whom the Society may have to deal in the future in its operations with the Colorado Medical Foundation. Considering this, together with the fact that many months have been spent in preparing this revision, your Reference Committee does not wish to offer further alterations. Rather, we hope that by its action on this revision the House of Delegates will express its confidence in the tremendous work done by the Board of Trustees toward the protection of the Society's future interests.

However, we do desire to call to your attention a few of the major changes. We feel it unnecessary to discuss the few minor typographical errors, since we recognize that the documents before us are printers' proofs.

The most important change presented in this revision is the increase in members of our Board of Trustees from seven to nine, with its provision for overlapping terms of the four elected trustees, constitutional secretary, and treasurer, in such a manner that hereafter there shall always be a majority of the Board of Trustees which has had at least one year's experience with the Society's financial affairs. This change is effected in the Constitution in Article VII, Sections 1 and 2.

Second only in importance to the above are the several related sections throughout the new Constitution and By-Laws which in combination give the Board of Trustees a much clearer responsibility concerning the Society's financial affairs and which should therefore make possible the carrying out of recommendations made by the Executive Secretary toward better financial control and reduction of expenditures.

The other major changes have already been fully presented to you in the supplement to the Report of the Board of Trustees on pages 7, 8, and 9 of the Handbook. (See page 777, this issue.)

We particularly wish to call to the attention of the House the fact that the revision proposed by the Board of Trustees will in many sections of the By-Laws clarify and simplify provisions which in the old draft have proved to be ambiguous.

Under the existing Constitution the new Constitution cannot be adopted until the Sixty-seventh Annual Session. However, the Board of Trustees and its advisors wisely foresaw the need of bringing a new type of Board of Trustees into existence immediately. Provision has therefore been made in the new By-Laws for the creation of offices in addition to those provided by the present Constitution. Election of officers to fill these places will bring about the needed transition between the old Constitution and the new.

As a supplement to this report your Committee submits a series of resolutions which have been prepared by the Board of Trustees and the Society's attorneys to make this transition period conform in every way to both old and new Constitutions, to old and new Articles of Incorporation, and to Corporate Law.

Your Committee therefore recommends immediate adoption of the revision of the By-Laws as proposed by the Board of Trustees; recommends that the printing of the new By-Laws in pamphlet form be withheld for one year pending adoption of the new Constitution; recommends that at the convenience of the Publication Committee the new By-Laws be printed in Colorado Medicine as supplemental to the Minutes of this Annual Session*, with correction of such typographical errors as may exist in the present proof, and recommends that this House go on record favorably toward the adoption of the proposed revision of the Constitution at the Sixty-seventh Annual Session.

Your Committee further recommends that the members of this House individually support the recommendation of the Board of Trustees and the Society's attorneys for the revision of the Society's Articles of Incorporation, which must be voted upon by all members of the Society present

*To be published in an early issue.—Editor.

at the brief Special Meeting called for 2 o'clock Saturday afternoon.

Respectfully submitted,

GEORGE H. CURFMAN, Chairman,
GEORGE A. UNFUG, Vice Chairman,
C. T. KNUCKEY,
E. H. MUNRO,
PAUL HILDEBRAND,
ATHA THOMAS,
JACK HUTTON,
W. W. CROOK,
C. D. BONHAM.

Dr. Unfug moved adoption of the report; motion seconded and carried.

Dr. Unfug moved the adoption of the new By-Laws as recommended by the Committee on Constitution and By-Laws. Seconded by Dr. Heusinkveld and carried.

President Markley declared the new By-Laws adopted.

Dr. Unfug: "Mr. President, as a supplemental report, I would like to present three resolutions."

RESOLUTION

Whereas, The House of Delegates of The Colorado State Medical Society has on this, the 10th day of September, A. D. 1936, adopted a completely revised set of By-Laws for the said Society and coincident therewith has repealed all previously existing By-Laws; and

Whereas, A complete revision of the Constitution of the said Society has been proposed, meets with the favor of this House, and this House contemplates adoption of said revised Constitution and repeal of the existing Constitution at the Sixty-seventh Annual Session of the Society in conformance with the provisions of the existing Constitution concerning Constitutional amendments; and

Whereas, During the interim and transition period pending adoption of a new Constitution special offices must be created and officers elected to fill such offices, under the provisions of the Articles of Incorporation of the Society, the Constitution of the Society, and the newly-adopted By-Laws of the Society, and in preparation for observance of the proposed new Constitution; now, therefore, be it

Resolved, by the House of Delegates, That under the authority of the Articles of Incorporation and the Constitution and By-Laws of the Colorado State Medical Society the following Standing Rule of the House of Delegates is hereby adopted, said Rule to expire automatically upon adoption of the aforesaid proposed new Constitution for the Society, to-wit:

Standing Rule

Officers of The Colorado State Medical Society to be elected at the Sixty-sixth Annual Session shall include a President-elect to be elected for a term of one year as such and to assume the office of President for a term of one year at the expiration of his term as President-elect as provided for in the By-Laws; a Constitutional Secretary to be elected for a term of three years; a Trustee to be elected for a term of three years; a Trustee to be elected for a term of two years; two Trustees to be elected for terms of one year each; three of the aforesaid Trustees to be designated respectively as second, third, and fourth Vice Presidents of the Society for a period of one year in conformance with the existing Constitution of the Society; and such other officers in addition hereto as may be required by the Constitution and By-Laws.

And Be It Further Resolved, That the Committee on Nominations is hereby instructed to observe the provisions of this Standing Rule in addition to the provisions of the Constitution and By-Laws in the preparation of a ticket of nominees for the Sixty-sixth Annual Session as required by the By-Laws.

Dr. Unfug moved adoption of the foregoing resolution. Motion seconded by Dr. Hills and carried.

Dr. Unfug presented the following resolution:

RESOLUTION

Be It Resolved, by the House of Delegates of The Colorado State Medical Society, That the following Standing Rule is hereby adopted, subject to the provisions of the Constitution and By-Laws of the Society:

Standing Rule

The Board of Trustees of The Colorado State Medical Society is hereby empowered to retain or employ, at the discretion of the said Board and for such period of time as the said Board sees fit, an attorney or firm of attorneys to act as General Counsel for The Colorado State Medical Society, and to assign to such attorney or attorneys such duties as in the opinion of the Board of Trustees are for the best interests of the Society and are not inconsistent with the Constitution and By-Laws and the customary duties of corporation counsel.

Dr. Unfug moved adoption of the foregoing resolution. Seconded by Dr. Thomas and carried.

Dr. Unfug then presented the following resolution:

RESOLUTION

Be It Resolved, By the House of Delegates of The Colorado State Medical Society, That the following Standing Rule is hereby adopted, subject to the provisions of the Constitution and By-Laws of the Society:

Standing Rule

There is hereby created and established the office of Foundation Advocate to the Colorado Medical Foundation.

Any member of The Colorado State Medical Society in good standing in his class of membership shall be eligible for election to the office aforesaid.

Such officer shall be elected annually in the manner provided for the election of constitutional officers.

It shall be the duty of said officer to the best of his ability to conserve, sponsor and promote the interests of The Colorado Medical Foundation, to make it his pride and privilege to so conduct his office that the corpus of the said Foundation shall be larger at the end of his term of office than it was when he assumed office, and to perform such additional duties not inconsistent herewith as may be directed by the Board of Trustees.

And Be It Further Resolved, That the Committee on Nominations is hereby instructed to observe the provisions of this Standing Rule in addition to the provisions of the Constitution and By-Laws in the preparation of a ticket of nominees for the Sixty-sixth Annual Session as required by the By-Laws.

Dr. Unfug moved adoption of the above resolution; motion seconded and carried.

The report of the Reference Committee on Medical Economics and Federal Medical Services was given by Dr. Lowen as follows:

REPORT OF THE REFERENCE COMMITTEE ON MEDICAL ECONOMICS AND FEDERAL MEDICAL SERVICES

September 10, 1936.

To the House of Delegates:

This Committee has gone over the following reports as carefully as limited time would permit.

That of the Committee on Medical Economics shows much painstaking work and should be accepted as submitted by the Committee.

The report of the Advisory Committee to the School of Medicine, at the suggestion of Dr. Madler, will be submitted to a general meeting of the House of Delegates this evening, hence needs no further comment.

The report of the Advisory Committee to the Board of Health should be adopted in the hope that continued efforts of the permanent Committee will make for an equable solution of some of its present controversial problems.

Since the FERA has been discontinued, further thought along these lines for the current year is unnecessary. Its Committee Report for the year 1935-1936 should be accepted as a matter of record.

The Reports of the Committee on Military Affairs and the Committee on Gratuitous Medical Services should also be adopted.

Respectfully,

C. J. LOWEN, Chairman,
L. A. MILLER,
S. V. HAGERMAN.

Dr. Lowen moved adoption of the report as presented; motion seconded by Dr. Connor and carried.

President Markley called on Dr. Kenneth D. A. Allen for a report of the Reference Committee on Resolutions and New Business.

REPORT OF REFERENCE COMMITTEE ON RESOLUTIONS AND NEW BUSINESS

Dr. Allen: "Mr. President, this Committee has considerable business to present. We will do it as expeditiously as we can and still be consistent with its proper presentation.

"I want to thank Dr. Schoen, who worked in the hours of the night with us. The third member of the Commitee was not present. I also wish to thank Mr. Sethman for helping us with this work.

"You have read the first resolution in the Handbook. It is Dr. Lingenfelter's report on the Committee for the Rocky Mountain Joint Meeting in 1937. Your Committee has considered the report of the above-mentioned Committee and has consulted with Dr. G. P. Lingenfelter. We recommend the adoption of Dr. Lingenfelter's report in its entirety.

"Mr. President, I move the adoption of this report."

The motion was seconded and carried.

"The Committee on New Business is quite gratified that all the remaining resolutions fall in line with the very excellent address which we heard right after luncheon by our President. These three resolutions exemplify the trend toward preventive medicine by the body of organized medicine."

September 10, 1936.

To the House of Delegates:

Your Committee on Resolutions and New Business recommends the adoption of the following Resolution presented by Drs. Edward Jackson and C. A. Ringle:

RESOLUTION

Whereas, Experience has shown that dinitrophenol profoundly affects the nutrition of the body and even in young persons otherwise healthy and not supposed to be in such danger, it may cause cataract without previous warning, and even after the use of the drug has been discontinued, thus rapidly producing blindness; and

Whereas, This drug may enter into proprietary medicines sold under copyright names for the reduction of obesity, without any information as to what the medicine may contain.

Be It Therefore Resolved, That the Medical Society of the State of Colorado desires to inform the public of this danger and that the officers and members of the Society should assume the public duty of extending this warning by all proper methods.

Respectfully,
K. D. A. ALLEN, Chairman,
W. A. SCHOEN,

Dr. Allen moved adoption of the report and resolution; motion seconded by Dr. Connor and carried.

Dr. Allen then read the following:

September 10, 1936.

To the House of Delegates:

Your Committee on Resolutions and New Business recommends the adoption of the following Resolution presented by Dr. John B. Hartwell:

RESOLUTION

Whereas, The medical profession is active in most phases of disease prevention, it seems desirable that the force of its support should be united with that of other safety agencies in the effort to reduce the toll of injuries and death resulting from motor accidents; therefore,

Be It Resolved, That The Colorado State Medical Society recognize the awful toll caused by motor accidents and enter the crusade to lessen such toll.

Be It Further Resolved, That the President appoint a central committee which shall consider ways and means to accomplish this end and that in conjunction with the central committee supplementary committees be appointed from each constituent society to carry on the program in their several communities.

Respectfully,
K. D. A. ALLEN, Chairman,
W. A. SCHOEN,

Dr. Allen moved adoption of the report and resolution; motion was seconded and carried.

Dr. Allen: "Mr. President, the Committee studied this next subject at some length. You will quickly recognize that this resolution is a strong tendency to combat State Medicine."

Report of the Committee on Resolutions and New Business on the Cancer Campaign in Colorado Inaugurated by the American Society for the Control of Cancer. Resolution Presented by Sanford Withers.

September 10, 1936.

To the House of Delegates:

After investigation and conference with Doctors Withers, Roy L. Cleere and Charles Kingry, your Committee begs to report the result of the investigation and conference. Doctor Withers' resolution requests approval of the Colorado State Medical Society through the House of Delegates of the promulgation of the Cancer Campaign, the essentials of which are well described in the attached letter, a copy of which was sent to each delegate prior to this meeting.

To the House of Delegates of the Colorado State Medican Society:

The American Society for the Control of Cancer during the last year has started a campaign to inform the public regarding the nature of cancer and its proper treatment in an effort to combat the deplorable propaganda and methods used by the cancer quacks. In order to reach the greatest number of people, the campaign is being conducted through the churches of all denominations. This program is in progress in many states. In each instance the campaign has been and is being conducted with the approval and cooperation of the State Medical Society.

On August 25, 1936, our State Board of Health, through the Public Health provisions of the Social Security Act, obtained funds to finance a campaign in Colorado. These funds will be used for publishing pamphlets and to help defray the expenses of medical speakers.

The American Society for the Control of Cancer has appointed the following committee for this campaign: Dr. Charles B. Kingry, Dr. George B. Kent, Dr. Roy L. Cleere, Secretary of the State Board of Health, and Dr. Sanford Withers, Acting Chairman.

This program is sponsored and approved by the Colorado State Board of Health and the Committee desires the approval of the following organizations: The Colorado State Medical Society and all church denominations.

The sole purpose of this campaign is (through medical speakers) to inform the greatest number of people in our State as to the nature of cancer, and to direct them to their local Doctors of Medicine for examination.

The procedure shall be as follows: The head of each denomination in the State (clergyman, priest or rabbi) shall agree to communicate with every clergyman of his faith requesting him to read to his congregation at the next convenient service a booklet entitled "What Everyman Should Know About Cancer" (prepared by the American Society for the Control of Cancer especially for this campaign.) Further, he shall request him to ascertain whether or not his congregation desires a medical speaker to address them, stating a suitable time and place for such meeting.

At the same time, the committee will inform every Doctor of Medicine in the State as to the details of the campaign in his locality and ask for his support and cooperation.

Each medical speaker will advise his audience to have an examination by his regular Doctor of Medicine who will charge his regular fee for the services rendered. This program will not interfere with the customary relationship between physician and patient.

The American Society for the Control of Cancer

will send its regional director, Dr. John M. Flude, and probably the managing director, Dr. Clarence Cook Little, to Colorado during the speaking campaign.

The medical talks will have to be of a uniform nature as they will be illustrated with moving picture film or film strips furnished by the American Society for the Control of Cancer.

An analysis of this survey will be published in "Colorado Medicine." It is hoped that this will give an accurate report as to the number of persons examined and neoplasms discovered with prognosis of individual case.

This program will not interfere with or supplant our State program or function of our cancer committee. The American Society for the Control of Cancer and the Colorado State Board of Health request your approval and moral support in this campaign.

Respectfully submitted,
CHARLES B. KINGRY, M.D.,
GEORGE B. KENT, M.D.,
ROY L. CLEERE, M.D., Secretary of State Board of Health,
SANFORD WITHERS, M.D., Acting Chairman.

The campaign appears to have two functions. (a) (the more important function) to acquaint the lay public with the dangers of cancer. (b) to assist the private physicians of these people to make exhaustive physical examinations in their search for cancer.

It is the plan of the Committee to select a sufficient number of speakers from the members of the Colorado State Medical Society and speakers furnished by The American Society for the Control of Cancer, to offer about two hundred talks in the various churches of Colorado at special meetings during week days arranged by the clergymen, rabbi, priests, etc., of the respective churches. The talks are to be of uniform type covering essentially the same material in every instance. They are to be controlled by projection reels furnished by the American Society for the Control of Cancer. Each speaker is to make his presentation in other than his own community.

The lay listeners will be advised to report to their own doctor for periodic examinations and will be given physical examination blanks which they may hand to the doctor for completion. This blank will make for thoroughness in the examination.

This campaign is to be financed by about twenty-eight hundred dollars of Federal and State money related to the Social Security Act now available, obtained through the office of the State Board of Health. This money is to be divided approximately as follows: Printing of booklets, $900.00: travel expenses for speakers who will make about two hundred talks, $1,000.00; and office space and secretarial help in the State Office Building, $900.00.

Your Committee has ascertained that this campaign has been inaugurated in fifteen or more states and that it in no wise contemplates free medical service of any type. It does not change the relationship of the private patient to his physician.

Your Committee believes that the whole success of this venture depends upon the thoroughness of the physical examination performed by the private doctor who is supposed to charge his regular fee for this service. This campaign does not supersede or supplant any action that the State Society Cancer Committee has taken or contemplates; in fact, it challenges that Committee to increased activity so that the medical profession can perform its part in this campaign by furnishing the highest type of examination and advice to the potential cancer patient.

The promulgation of this campaign is approved by this Committee and adoption of Dr. Wither's resolution is recommended for two main reasons: 1. It is considered to be a dignified, ethical, and proper method of combating cancer in our community. 2. Procedures of this type will help stem the tide of movement toward State Medicine by furnishing the lay public with the services which State Medicine promises them as an argument in favor of its adoption.

Respectfully,
KENNETH D. A. ALLEN, Chairman.
W. A. SCHOEN.

Dr. Allen moved adoption of the report and resolution.* President Markley asked if there were discussion.

Dr. Campbell: "There is only one thing I think all of us ought to take up, in regard to any question of this sort. I have had the pleasure of working on cancer teams in the State the last year or two and I think there is one very great factor that all the doctors in the State should be warned about. That is the fact that too many of the medical profession in the State are willing to pass up the precancerous lesion and say, 'Well, let's wait two or three or four months to see what it develops into.'

"I think that is something on which there should be a little more cancer education among the medical profession as well as among the laity. I think the House of Delegates should stress that fact to the medical profession and make them realize that this examination should be more than a mere filling out of a blank—a true, thorough physical examination."

Motion for adoption of the report and resolution carried.

President Markley called for the report of the Committee on Nominations.

Dr. Heusinkveld: "With your permission, I will explain how this new set of officers ties in. In the new scheme there is a President, a President-elect, one Vice President, a Constitutional Secretary, a Treasurer, and four Trustees. All these men are Trustees.

"This year we are electing a Constitutional Secretary for a three-year term, and we elect one Trustee for his team-mate, so to speak.

"The Treasurer of the Society has served one year of a three-year term, so there are two years left in his service. We will therefore elect a two-year Trustee as his running mate. Then there are two one-year Trustees to be elected to fill out the number.

"With that short explanation, I will proceed."

REPORT OF THE COMMITTEE ON NOMINATIONS

Sept. 10, 1936.

To the House of Delegates:

Your Committee on Nominations begs leave to submit its ticket for the Sixty-sixth Annual Session herewith. In so doing, your Committee has taken cognizance of the provisions of the new By-Laws just adopted for the Society by this House, as well as the Standing Rule concerning an officer to conduct for this year the sponsorship of The Colorado Medical Foundation.

Our ticket, which represents in each case unanimous action by the Committee, follows:

For President-elect: W. T. H. Baker of Pueblo.

For Vice President: Albert C. McClanahan of Delta.

For Constitutional Secretary: John S. Bouslog of Denver; three-year term.

For Trustees—

Three-year term: A. C. Sudan of Kremmling.

Two-year term: W. Bernard Yegge of Denver.

*See Resolution, Page 794, this issue.

One-year term: Leo W. Bortree of Colorado Springs, and O. M. Gilbert of Boulder.

Councilor, District No. 1: F. W. Lockwood of Fort Morgan; three-year term.

Councilor, District No. 2: Ella A. Mead of Greeley; three-year term.

Councilor, District No. 3: G. P. Lingenfelter of Denver; three-year term.

Delegate to the American Medical Association: John W. Amesse of Denver; two-year term.

Alternate-delegate to the American Medical Association: John B. Crouch of Colorado Springs; two-year term.

Member of the Committee on Publications: C. F. Kemper of Denver; three-year term.

Place of the Sixty-seventh Annual Session: Colorado Springs, with headquarters at the Antlers Hotel.

Time of the Sixty-seventh Annual Session: Late September, 1937, the exact dates to be chosen by the Board of Trustees at the Board's early convenience.

Under the Standing Rule just adopted by the House of Delegates relating to an officer for the Colorado Medical Foundation, under the tentative official title of "Foundation Advocate," we nominate Walter W. King of Denver for a one-year term.

Respectfully,
G. HEUSINKVELD, Chairman,
GEO. A. CURFMAN,
GEO. A. UNFUG,
W. K. HILLS,
W. B. HARDESTY.

The report was received and placed on file.

President Markley: "There being no unfinished business, we pass to one of the pleasures of the occasion. We are very much honored by having with us at this meeting one of the outstanding members of the A.M.A. staff, Dr. W. W. Bauer, Director of the Bureau of Health and Public Instruction. As you know, Dr. Bauer is one of the outstanding speakers on subjects of this kind for the American Medical Association, and appears several times each month on the radio.

"Dr Bauer will address you in extenso later, but we would like a word from him just at the present time."

Dr. W. W. Bauer: "Mr. President, Dr. Upham, Members of the House of Delegates: I am very happy to be here and to listen to your deliberations. I was exceedingly happy earlier this afternoon when I heard the address of your President, because after hearing his address I felt that probably a little negotiation would let me out of reading my paper tomorrow. He has already said it all, and I don't think there is much left for me to say!

"The thing that seems to me most important for the medical profession now is to solve some of the relationships between the practicing physician and the public health official. There are many of those problems, and having been both a practicing physician and a public health official, I can see them from both sides and I feel quite confident that they can be solved by just such methods as have been suggested by your President in his address this afternoon and as have been adopted by your House of Delegates in their participation in Cancer Education.

"It seems to me very significant that the medical profession is now participating more and more in movements for health education and it seems to me that that is a line along which we must go farther and farther because, as we teach the public to appreciate good medical service, I think we will succeed, at least to some extent, in immunizing them against the virus of State Medicine and the various socialized plans that are being offered them with large promises which we know very well cannot be fulfilled.

"I want to say that all the members of the Headquarters Staff of the American Medical Association greatly appreciate the cordial relationships that have existed between the Headquarters and this Medical Society. We have a great deal of correspondence with your Executive Secretary and we know that we can always count on cooperation from Colorado.

"Headquarters, as you know, are being made over and we hope to be able to serve you better and more expeditiously in the future.

"I am tempted to draw upon a remark made by one of the Trustees of the American Medical Association in a discussion at a Secretarial Conference recently, in which he made the point that the Headquarters of the American Medical Association are to be regarded as an ammunition factory in which is prepared material for use by the State and County Medical Societies.

"I should like to extend that simile just one point further by reminding you that if ammunition is going to make hits, somebody has got to fire it!

"Thank you."

President Markley: "And we are still further honored by having present on this occasion the President-elect of the American Medical Association.

"I present Dr. Upham."

. . . The House stood and greeted Dr. Upham with applause . . .

Dr. Upham: "After an extended trip through this section of the country, my trip is climaxed by attending your meeting, seeing what a splendid program you have, and having the opportunity to meet with the House of Delegates and see the vigorous manner in which you are meeting the situations which confront you.

"In my official travels, I still find a little confusion about the different grades of membership in the American Medical Association, and feel it is worthy of discussion here. When you join your County Medical Society you become, automatically, a member of your State Society and a member of the American Medical Association. We are organized on a democratic plan. Therefore, you elect delegates from your County Society to your State Society, and your State Society elects delegates to the American Medical Association. In that way each of you, individually, through your representatives, has a voice in formulating the policies of the entire organized medical profession of the United States.

"There are, however, two broad functions of the American Medical Association. One is that of formulating national policies, as described, and includes that of supplying information of every conceivable kind to the Association's state and county units and individual members. The other great function is the scientific function, including the Scientific Assembly and the Journal. The Scientific Assembly meets at the same time as the House of Delegates at the Annual Session. It presents a remarkable and varied program of scientific papers and maintains a magnificent scientific exhibit which shows the advance research work that is being done in all parts of the country in all branches of medicine. The Association also publishes the Journal. It is conceded to be the best medical journal in the

world. It has over five times the circulation of any other medical journal in the world.

"Any member who is in good standing in his own County and State Medical Societies is eligible for election as a Fellow of this side of the American Medical Association's activities—the scientific side. His Fellowship dues are seven dollars a year, and for this he receives both the Journal and his Fellowship rights to take part in the Scientific Assembly. Through the Journal he receives not only the papers presented at the Scientific Assembly but other papers—outstanding ones—contributed from time to time to the Journal from many other sources. He is also entitled, by his Fellowship, to take part in the proceedings of the Assembly and to present papers there. All of this for seven dollars a year!

"I am glad to see the number of Fellows you have in Colorado, though I think it could be increased. It is also gratifying to see the large number of members, the high per cent of those eligible to membership. It would be of benefit to you, and to your Society, though, if more of you became Fellows of the A.M.A. and thereby contributed financially to the support of the national organization. When one pays out a little money, he has a more vital interest, a vested interest then, in the organization. Remember that not a cent of your county and state dues goes to the American Medical Association. Also remember the old Scriptural saying that 'where your treasure is, there your heart is also.'

"This House of Delegates is the body that formulates medical policies for this whole state, and for that reason I am particularly glad to talk with you. We as a profession are under a fire of criticism. We are more or less on the defensive—unjustly, I think, but we have been placed there partly because we have been so busy in the last generation or two trying to keep up with the scientific progress of medicine that we haven't altogether kept track of the trends of medical practice throughout the country.

"In the past we have started forces that have gone on and in some instances threaten to go beyond us. We are responsible for all of these movements in the past and it is up to us to keep up with them, keep abreast of the times and to direct those things which we were responsible for starting. Some of us hardly give a thought to the fact that preventive medicine, for example, is only about fifty years old. See what extraordinary strides have been made in that time! Following the work of Pasteur and Koch in the '70's, opening out a tremendously new field showing us the causes of infectious disease which were at that time purely incognito, entirely unknown, speculative, somewhat probable in the '80's.

"Someone had the idea that it would be a lot better to keep out these organisms from the body than to try to treat them after they enter the body. At that moment preventive medicine was born, and from that moment to the present time tremendous strides have been made. There must have been a providential premonition, because it wasn't so very long until we had, as the effort of medical organization, Boards of Health in the various states for the protection of the health of the people. If you look back into the history of peoples, you see how small they were—a one man affair with a secretary. But with the development of the discoveries of infectious diseases, we had an enormous opportunity presented by the various Boards of Health—opportunities which, as they developed, cut in on the income of practicing physicians of that time. But I do not know of any opposition voiced by the medical profession when, for example, they instituted the measure for what has resulted practically in the elimination of typhoid fever.

"As recent discoveries have developed further, we have made the people in our various states and communities more health-minded. We have shown opportunities and the way in which our Boards of Health can be effective in the prevention of disease. The question often arises as to the cooperation between the medical profession and these bodies that we were responsible for founding and which we are responsible for carrying on. Particularly since the war, when prophylactic medicine was developed to such an extent in the Army, the attention of various Boards of Health has been directed toward carrying out those measures in their various States and communities, and they have striven to cooperate and work through the medical profession. There have been times when they have been impatient at the conservatism of the medical profession because we have been so fooled with vaunted discoveries of panaceas that we are naturally conservative. We have grown so of necessity. Growing impatient with the profession, they have in some instances tried to force things on communities and states that have met with opposition from the medical profession.

"Now it seems to me that through our official bodies we ought to establish a policy of just how we are going to proceed in measures of this sort. Are we going to stand up with our backs against the wall and fight what some people claim is progress? Or are we going to sit down with the people who are interested in these measures and see if we can work out a plan of thorough cooperation?

"After general use of the Widal test, it was a natural step to extend such work to tularemia, undulant fever, and rabies. Now the great question before us all is as to what part the Boards of Health and medical profession are taking in the great campaign against syphilis. Inasmuch as this is a tremendous health measure and these organizations work through the medical profession, it is a matter for us to give consideration to whether the State Boards of Health are to do free Wassermann and Kahn examinations. The main objection I have heard expressed is that this is offered free to supposedly indigent people who are not, that there are some unworthy members of our profession who will charge a fee, thus taking advantage of this free service. That is a poor argument for us to go before the public and tell them that we oppose the free examination by the State Board of Health because some of our own members take advantage of it and take some of the taxpayers' money to which they are not really entitled! We ought to think this thing through a bit more. We are not offering this to the people by way of free advertising; we are offering it through the medical profession. Doesn't it seem right that we ought to inculcate a feeling, among the medical profession itself, of noblesse oblige in this matter? In my own state, this service has been offered ever since the war. In my own city I know of at least three private laboratories that are doing Wassermann reactions that are kept constantly busy. And why are they doing that? I think it is because they are furnishing fair service at a fair price, and the local profession can depend on these laboratories. In the matter of patients who are able to pay, they should patronize their confreres of the medical profession who are carrying out this work and they should limit those cases for state laboratory assistance to those

that are strictly entitled to it—the indigent. As to those who can pay a small amount, there is no objection whatever from us to have the State laboratory say that the doctor is entitled to at least two dollars for drawing the blood, for example, but where a fee of three to five dollars would be a hardship, the State feels it should cooperate with the doctor to that extent in furnishing that information and allow him to have his fee for the trouble of collecting the specimen. If the patient is entirely indigent and can't pay anything, the doctor draws the blood for nothing and obtains the information that is oftentimes of vital importance to him in order to carry on proper treatment. This is a service rendered to you for the better treatment of your patients and you should inculcate the doctrine of taking advantage of it in an honorable and honest way and continue to support your private laboratories.

"There are other ways in which the State Boards of Health are entering the field of medicine. The A.M.A. and our own State organization some years ago were disturbed by the Sheppard-Towner bill because in their anxiety to force health upon the common people there were some things done under the bill that infringed upon the practice of Medicine. The Sheppard-Towner bill was so loosely drawn that you could do almost anything under it and there was no question but what advantage was taken of that and free clinics held and tonsils snatched out of people all over the country, free of charge.

"There were abuses, but I think the various health organizations have recognized that very definitely and if you will scrutinize the activities under the National Security Act, especially maternal and child welfare, you will see a very great change in tendency and a very acute desire to cooperate with the medical profession.

"In my own state, for example, when this plan was inaugurated through the Department of Health, the State Association was immediately notified and requested to nominate members for an Advisory Committee. I was nominated from our State Association and attended the Advisory Committee, consisting of representatives of the medical profession, the dental profession, the Department of Education, and so on, and received a carefully prepared program that the Department of Health had under consideration for carrying out this plan of maternal and child welfare. It was open freely for discussion and we had the opportunity of discussing the program and of making suggestions as the plan was read. It was entirely a plan of education. I took occasion to remark that one of the greatest difficulties that the medical profession had in carrying out measures of this sort, particularly in prenatal care, was the opposition and ignorance of the public. Very often a man would say that his wife had had four or five children, and why should she undergo this prenatal care that was suggested? He would say, 'It's just another scheme of the doctors to get more money!' It was, therefore, just as important to show them that this was not a scheme on the part of the medical profession to get more money and run up bills, but that it was a necessity—so regarded by the Board of Health and by the National Government—and that these measures were being taken to educate not only the doctors but the public themselves as to the necessity of prenatal care and some of these other health measures so as to smooth the way for the doctor and help make a cooperation that would benefit the whole community immeasurably. That plan was adopted and it met with our entire approval.

"There is an extension of activities of the Board of Health that is certainly in the right direction, because it is the education of the public that will help us in carrying out what we know are the requirements of modern medicine. There is no better way to keep the medical profession up to the mark than to have the public know what sort of medical education we should have. This educational work on the part of Boards of Health thus is a splendid move not only for the education of the public but for helping us who are interested in maintaining the higher standards of medical practice.

"If this cooperation is carried out between the medical profession and the State Board of Health, it ought to be carried out further throughout the various institutions, particularly those caring for the indigents throughout our State. Possibly as a result of the depression, partly as the result of the growing knowledge of the people in public health matters, our States and communities have become health-minded. They realize that the medical profession has been carrying the burden for many years in looking after the indigent, and I think they are trying to make an effort to lighten this burden. They still want us to give our services largely free, but they are beginning to arrange for the care of the indigent by setting up hospitals in various centers and arranging with the various counties to send their indigent to these hospitals for care.

"In drawing up these plans in some of the States, the various laws that have been established, the wide-awake medical profession has cooperated in drawing up these laws so that they will carefully protect the rights of the practicing physician. Sometimes these laws have not been so carefully drawn. There is a matter for your Legislative Committee, which should be watching all bills of this sort that are introduced.

"This necessarily is an indication of what we see already in this country. What would be the effect of State Medicine if politics should enter into it? It would be the end of real good medical practice as a whole. If the law is wrong, it is up to the State Society to do one of two things: Try to correct the law; try to safeguard your practitioners by carefully drawn laws; and don't blame the administrator, unjustly, who is handicapped by the law as it exists, who is perhaps unable, by personal investigation, to find out the true situation of individuals who are referred to the hospital and who do not deserve to enter as indigents The other alternative is in the hands of the local County Society—to create a public sentiment whereby it is fully understood in the community that this provision of the law is for the care of the indigent, that this is a burden upon the tax duplicate of that county and that any individuals who take advantage of this measure unjustly are taking advantage of each individual taxpayer in that community. A united front will be the biggest force imaginable in combating any tendency toward socialized medicine."

President Markley: "Dr. Upham, we are under great obligations to you. You have given us some very wise advice on some subjects in which we stood greatly in need of good advice. We certainly hope to profit by it.

"Members of the House: You adopted a supplemental report submitted last evening by the Advisory Committee to the School of Medicine, in which the House of Delegates ordered that the report and the related discussion be considered in open session.

"I now declare this session of the House of Delegates open for a general discussion of that

subject and I will ask Dr. Madler if he will again present the special details of which he is in possession and in that way make it more definitely clear what we are to discuss."

Dr. Madler repeated, in substance, the supplemental report of the Advisory Committee to the School of Medicine as presented at the previous session of the House. (See Page 795.)

The subject matter of the report, and questions relating to the admission of patients to the Colorado General Hospital, were then discussed at length by Drs. N. A. Madler, W. S. Bennett, W. W. Haggart, John Andrew, A. C. McClanahan, Paul J. Connor, O. E. Benell, C. A. Davlin, Maurice H. Rees, and W. B. Yegge.

On motion of Dr. A. C. McClanahan, regularly seconded, discussed by several, and passed unanimously, the House ordered that said discussion should be transcribed and kept on file for the permanent records of the Society, but that due to its length and the cost of its printing, that it be eliminated from the printed transactions of the House.

(Editor's Note: The transcribed discussion referred to above is on file in the Executive Office of the Society, where it may be referred to by any member of the Society.)

On motion of Dr. Madler, all questions considered in the above discussion were referred to the Reference Committee on Medical Economics and Federal Medical Services, with instructions to report back to the House at a later meeting in this Annual Session.

On motion of Dr. Yegge, regularly seconded and carried, the House then adjourned until 9:00 a. m. the following morning.

Adjournment.

THIRD MEETING OF THE HOUSE OF DELEGATES

9:00 a. m., September 11

The meeting was called to order by the President, Dr. Markley, at 9:10 o'clock.

Executive Secretary Sethman called the roll and announced a quorum present. He then read the minutes of the previous meeting, which were approved as read.

Dr. Bouslog moved that the House of Delegates adjourn this meeting at 9:50 a. m. by the clock. Motion seconded by Dr. Mugrage and carried.

The President asked for reports of Reference Committees.

Dr. Kenneth D. A. Allen: "Mr. President, for the Committee on Resolutions and New Business, I would like to present a resolution which originates in this Committee."

RESOLUTION

Whereas, The Colorado State Medical Society has no funds allocated for legislative purposes;

Be it Resolved, That the Public Policy Committee of the Colorado State Medical Society be authorized to procure and disburse a fund sufficient to meet current requirements.

Dr. Heusinkveld moved that discussion of this resolution be off the record; motion was seconded by Dr. Hartwell and carried.

Discussion proceeded at some length, following which Dr. Allen moved adoption of the resolution. Motion seconded by Dr. Benell and carried.

The Reference Committee on Reports of Officers made its report as follows:

REPORT OF THE REFERENCE COMMITTEE ON REPORTS OF OFFICERS

Sept. 11, 1936.

To the House of Delegates:

Your Committee has considered the annual reports of the Board of Trustees, the Board of Councilors, the Constitutional Officers and the Executive Secretary, together with the several supplement to those reports.

Your Committee wishes to congratulate and commend the Board of Trustees upon its excellent work in the establishment of The Colorado Medical Foundation.

Your Committee recommends the adoption of these various officers' reports and supplements as submitted.

Respectfully submitted,
GEORGE E. RICE,
T. E. BEYER,
LLOYD S. ALLEN.

Dr. Rice moved adoption of the report; seconded and carried.

The Reference Committee on Legislation aud Public Relations, through Dr. Campbell, Chairman, made the following report:

REPORT OF THE REFERENCE COMMITTEE ON LEGISLATION AND PUBLIC RELATIONS

September 11, 1936.

To the House of Delegates:

Your Committee on Legislation and Public Relations has considered the report of the Committee on Public Policy. We recommend the acceptance of the report as published in the Handbook and the supplementary report given by the Chairman, Dr. Halley. We would particularly emphasize the importance of supporting candidates for public office who are known to be friendly to organized medicine. We would urge greater cooperation of our members to the end that our voice might carry weight in political circles.

We recommend the acceptance of the reports of the Committees on Medical Defense and Cooperation With Allied Professions as they appear in the Handbook.

W. A. CAMPBELL,
GEORGE B. PACKARD.

Dr. Campbell moved adoption of this report; seconded by Dr. Mugrage and carried.

There being no further business to come before the House, the session adjourned until 9 o'clock Saturday morning.

Adjournment.

FOURTH MEETING OF THE HOUSE OF DELEGATES

September 12, 1936, 9:00 a. m.

The House was called to order by President Markley pursuant to adjournment.

Executive Secretary Sethman called the roll and announced a quorum present. He then read the minutes of the previous meeting, which were approved as read.

Dr. Bouslog moved that the House of Delegates adjourn at 9:50 a. m., or before. Seconded by Dr. Katzman and carried.

The President asked Mr. Sethman to re-read the list of nominations as submitted by the Nominating Committee. (See Page 803.) This was done.

President Markley then asked for further nominations for the office of President-elect.

There being none, on motion of Dr. Unfug, seconded by Dr. Mugrage and carried, the nominations were declared closed. On further motion of Dr. Unfug, seconded by Dr. Mugrage, the Executive Secretary was instructed to cast the unanimous ballot of the House for Dr. W. T. H. Baker of Pueblo for this office. The ballot was so cast and President Markley declared Dr. W. T. H. Baker elected.

The President then asked for further nominations for each separate office, in order, and in each case there being none, accepted motions to close the nominations, and to instruct the Secretary to cast the unanimous ballot of the House for the designee of the Nominating Committee. Motions were so made, carried unanimously, ballots cast as instructed, and officers declared elected as follows:

Albert C. McClanahan, Vice President (one year).

John S. Bouslog, Constitutional Secretary (three years).

Trustees: A. C. Sudan (three years); W. B. Yegge, (two years); L. W. Bortree, (one year); O. M. Gilbert, (one year).

Councilors: District No. 1, F. W. Lockwood (three years); District No. 2, Ella A. Mead (three years); District No. 3, G. P. Lingenfelter (three years).

Delegate to the American Medical Association, John W. Amesse (two years).

Alternate Delegate to the American Medical Association, John B. Crouch (two years).

Member of Committee on Publication: C. F. Kemper (three years).

Foundation Advocate: Walter W. King (one year).

Motion setting Colorado Springs, Antlers Hotel, as the place for the Sixty-seventh Annual Session, time to be late September, and exact dates to be fixed by the Board of Trustees.

President Markley called for other reports. Treasurer Hartwell offered the following:

Dr. Hartwell: "Mr. President, I would like to make a supplementary report to the House as to the standing of The Colorado Medical Foundation.

"It should be of interest to the House of Delegates to know, at the very beginning of the first year of the Colorado Medical Foundation's life, how that Foundation stands financially.

"Before the trust agreement was signed, Dr. Walter W. King deposited one hundred dollars with your Treasurer as the first contribution to this Foundation. Soon thereafter came the first of several unsolicited contributions from the laity —from a patient of a physician who had read Dr. King's presidential address. This deserves special emphasis because at that time the only publicity that had been given the plan was the publication of Dr. King's presidential address in Colorado Medicine.

"In other words, this is a fund to which we may expect the laity will contribute.

"A report from the International Trust Company, Denver, shows that on the signing of the trust agreement on August 3, 1936, we deposited two hundred and thirty-five dollars, representing the contributions already mentioned, plus interest accrued in the months that the original contributions had been held in a savings account opened for that purpose by the Treasurer.

"Two hundred dollars in additional unsolicited gifts from laymen have since been added. Dr. Ella A. Mead of Greeley has deposited with the Foundation a $1,000 bond from which she is to receive the income during her lifetime but which, both principal and interest, will accrue to the principal of the Foundation upon her death.

"Dr. Walter W. King and Mr. Harvey T. Sethman have each insured their lives in the sum of $1,000, naming the Foundation as the beneficiary.

"The Foundation's potential assets, therefore, stand today at $3,435 plus interest accrued.

"The first conditional gift was received yesterday when the Woman's Auxiliary turned over to the Foundation their Physicians' Benevolent Fund amounting to $1,106.15 of which $100 is a contribution by the Colorado State Medical Society, ordered by the House of Delegates last year. This increases the fund to $1,541.15 in cash; a $1,000 par value bond, and $2,000 in insurance policies,—a grand total of $4,541.15,—and interest has been accruing on the principal while I have been making my report!

"I would like to move the adoption of this supplementary report of the Treasurer."

The motion was seconded by Dr. Katzman and carried.

Dr. Hartwell: "Dr. R. G. Leland, Director of the Bureau of Medical Economics of the American Medical Association, was a guest speaker at our last Annual Session. Previous to that time, on request of the State Society, he twice responded and journeyed to Denver to give us the benefit of his personal and official views in our time of need.

"I should like to move that this proven friend of the Colorado State Medical Society be elected an Honorary Member of our Society."

Dr. Madler: "Mr. President, in seconding this motion I wish heartily to endorse this action that we hope the House of Delegates will take. During my term of office as President of this Society, when things were in a turmoil economically, Dr. Leland gave a great deal of his time and his effort to the Colorado State Medical Society. I know that he was never too busy to answer letters, or to help in any way possible whenever called upon through our Secretary.

"During those years he was of inestimable value to us, and I believe it would be a compliment which is extremely well deserved if the House of Delegates would take the action proposed by the Treasurer."

Dr. Frank B. Stephenson: May I supplement this second of Dr. Madler's? I can only subscribe to what Dr. Madler has said. I don't know any words I can use that will express adequately how much indebted I feel to Dr. Leland for his help during my presidency. We found him always responsive. In our trips to Chicago, when we had occasion to interview him, we had an opportunity to see the great volume of work that he had to carry on, and the amplitude of his interests in economics. It was rather marvelous to me that a man who was making such comprehensive studies could give the individual attention that he gave to us.

"I certainly feel that this is a very appropriate thing to do."

The motion was carried unanimously.

Dr. Bouslog: "Mr. President, during our meetings here certain things have been said in the House of Delegates' sessions that I don't think should be published in Colorado Medicine. Therefore, I move that our Executive Secretary be instructed to edit the transcribed minutes so as to eliminate anything not suitable for publication in Colorado Medicine."

The motion was seconded by Dr. Mugrage and carried.

The President called upon the Executive Secretary for an official report.

Mr. Sethman then read the following letter:

September 11, 1936.

Colorado State Medical Society
Hotel Colorado
Glenwood Springs, Colorado

Gentlemen:

At its annual business meeting today the Woman's Auxiliary to the Colorado State Medical Society by resolution adopted the following recommendation of the Auxiliary's State Executive Board:

"At the suggestion of the Colorado State Medical Society the Executive Board of the Woman's Auxiliary to the Colorado State Medical Society recommends that the Physicians' Benevolent Fund be transferred from its present Savings Bank account to the Colorado Medical Foundation for custody and investment, in order that a better rate of interest may be secured, this action, however, to be interpreted so that the original restrictions placed upon the present and future use of the said Physicians' Benevolent Fund shall remain in full force and the original purposes of said fund shall be in no way changed."

This action is reported to you so that your proper officers may be empowered to make the above mentioned transfer at their early convenience at such time as in their judgment will best conserve the interest of the Physicians' Benevolent Fund.

Yours very truly,

MRS. T. MITCHELL BURNS, Chairman
MRS. GEORGE H. GILLEN
MRS. L. L. HICK

Mr. Sethman: "Mr. President, I think it would be appropriate for this House to authorize the Board of Trustees of the Society to make this transfer and carry out the wishes of the Auxiliary with regard to this fund."

Dr. Bouslog made such motion; seconded by Dr. Unfug and Dr. Laff.

Dr. Porter: "I know from a personal standpoint that getting higher rates of interest sometimes is not quite so safe. I am wondering if this transfer will be as safe an investment as we have had in the past. In a thing of this kind the safety comes first."

Dr. Hartwell: "The Colorado Medical Foundation, to which this fund has been given, is a trust fund that is surrounded by all the safety measures that a trust fund can be surrounded by, including the trust laws of the State. It is deposited with the International Trust Company of Denver as the Trustee of the Foundation. They probably will be able, with perfect safety, to secure a higher rate of interest than would be paid in a savings account or possibly a Government bond, which would have to be bought at a premium."

President Markley: "I am quite sure that Dr. Porter may have any apprehensions removed as to the safety of this fund. The Board of Trustees of the Colorado Medical Society has no speculative tendencies of any kind, and I can't help but think that the explanation that our Treasurer has given should remove any fears that anyone has as to the safety of our investments."

The motion was carried.

At the request of Dr. W. W. King, Mr. Sethman then read a letter from Dr. Gerald B. Webb of Colorado Springs, Past President of the Society, expressing greetings and best wishes.

The President called for reports of Reference Committees.

Dr. Connor: "Mr. President and Delegates: Dr. Lorimer is Chairman of the Committee on Miscellaneous Committee Reports but his voice is a little husky and he has asked me to present the report. It is as follows:

REPORT OF THE REFERENCE COMMITTEE ON MISCELLANEOUS COMMITTEE REPORTS

To the House of Delegates:

Your Committee has reviewed the reports of the following Committees:

Committee on Scientific Work: We recommend that the Clinical and Pathological Conferences be continued and Round Table Luncheons and questions of the guest speaker be continued. We recommend that the House of Delegates accept the report as published in the Handbook. We further suggest in addition to this report, that the problems of health confronting the physician of this and surrounding States be given special attention in the program for next year.

Some of the following diseases are related to this State in particular: Tuberculosis, Diseases transmitted from animal to man such as undulant fever, the filth diseases as related to fecal contamination of food, the respiratory diseases, namely: sinus infection, influenza and pneumonia.

The respiratory infections are so prevalent in this State that we recommend that a committee be appointed to study respiratory incidence in Colorado.

The Committee on Arrangements: We have nothing to add to the report of this Committee except to congratulate them on their splendid work. We urge that the House of Delegates accept the report as published in the Handbook."

Committee on Publication: Your Committee, after thorough study of the report, recommends the adoption of this Committee report but we urge the members and their families in the State Medical Society to patronize, when possible, the advertisers in the State Journal.

Committee on Medical Education and Hospitals: There has been a great deal of painstaking work done by this Committee. The report is a long one and one must refer back to the report of the Board of Trustees.

We recommend that the Secretary of the State Board of Health, Dr. R. L. Cleere, furnish the Committee on Medical Education and Hospitals with the regulations adopted by the State Board of Health and that the Committee furnish Dr. Cleere with a copy of its recommendations.

We recommend that Dr. Cleere and that Committee meet and develop uniform regulations which will satisfy both the State Medical Society and the State Board of Health. It is noted in this report that the requirements of the State Board of Health do not cover all of the items recommended by the Committee on Medical Education and Hospitals, and that is why this Committee recommends that this work be coordinated by the two organizations.

Committee on Library and Medical Literature: We find a very comprehensive report by this Committee as set forth in the Handbook. The choice of publications and books we consider excellent. We commend the Committee to the House of Delegates for its splendid work. We recommend that the President of the Colorado State Medical Society continue the policy of his predecessors by appointing members on this committee who are thoroughly familiar with books and medical literature.

Committee on Postgraduate Clinics: We recommend the continuation of the Postgraduate Clinics. However, we feel, as does the Committee that the Clinics are not attended by the Denver physicians as they should be. We might follow

the pattern set by Pueblo, working in all the Denver standardized hospitals.

We realize the many problems that keep the doctor away from meetings in his own home town, but there must be some way to help him attend these meetings. If these clinics are passed around to more hospitals and the scientific papers are given in the afternoon in close proximity to the Republic or Metropolitan buildings, it should help. We feel that a committee of Denver physicians should be appointed to interest the Denver profession in these clinics.

Committee on Cancer Education: After reviewing the report of the Committee, we feel that the Cancer Teams have done wonderful work in the education of doctors. With the additional work to be done by the State Board of Health with the money received from the Social Security Act this year, the layman's education on cancer will be also enhanced, thereby making it easier for the doctor to make his periodical examinations. We further recommend that all county societies take up cancer work and have committees appointed to work with the State committee and other agencies on cancer problems.

(The reading of the report was here interrupted for discussion.)

Dr. Porter: "Mr. Chairman, I happened to be sitting next to Dr. Hartwell at the Secretaries' meeting last night and he rather felt that maybe our cancer program was a fizzle, I remarked that we had a cancer team here two years ago. They came and gave us some good lectures and some pictures.

"I know I have done better work for my patients, done more for the community in advising my cancer patients, since having this clinic. I make no hesitancy now in telling every woman with a nodule in her breast that something must be done, and when she goes to her doctor, whether myself or somebody else, and he says, 'I'm going to wait and watch this thing', I have found that that is a fizzle.

"The doctor doesn't do any more good watching a tumor in the breast than a layman watching it. While he is supposed to watch it, the thing is going right on. Those cancer team lectures taught me to at least do something,—to have the thing taken out, to have a biopsy or take off the breast.

"I think these cancer teams are going to accomplish a big thing. I am heartily in favor of this activity. I would like to have them every year."

"I am saying this to let the doctors know who were on the team that they accomplished a lot, whether they think so or not."

Dr. Connor: "The educational money, that I understand comes through the State Board of Health, can do a tremendous amount of good, by teaching the layman something as well as the doctor.

"The earlier you make your diagnosis, the quicker you will get cures. Otherwise these patients never will be cured. As the doctor says, watching the breast with a tumor in it, is not going to help anyone. It just brings about a continuation of the condition."

(Dr. Connor here continued the reading of his report.)

Committee on Tuberculosis Education: We have reviewed the report of the Committee and we believe it has done excellent work. We recommend that this committee be continued. We recommend that the Committee on Tuberculosis Education join hands with the Director of Tuberculosis of the State Board of Health, as well as the Colorado Tuberculosis Association, so that a well-rounded campaign can be carried on through these three agencies to educate the doctors as well as the laymen.

We recommend adoption of these reports.

HUGH F. LORIMER, Chairman,
PAUL J. CONNOR.

Dr. Connor moved adoption of the Reference Committee's report, section by section; motions seconded by several and carried; motion then made by Dr. Connor to adopt the report as a whole; motion seconded by Dr. Mugrage and carried.

The President called for report of the Reference Committee on Medical Economics and Federal Medical Services. No member of the committee being present, President Markley entertained a motion to take the report from the Committee. The motion was seconded and carried. The report was then before the House for action. Dr. Rice moved the adoption of the original report. Seconded by Dr. Katzman and carried.

Dr. Madler: "Wasn't there something to come before that Committee? You know we had that special open meeting and the Committee was to pass on that. The final question that was left was referred to this Committee, after the special meeting, and this Committee was to report back to the House of Delegates."

President Markley: "That was the special discussion referring to the report of the Advisory Committee to the Medical School, was it not?"

Dr. Madler: "I feel as though the admission of ineligible patients to the Hospital should come before the Committee on Medical Economics, and that the Advisory Committee should be left to do the work for which it was originally intended.

"I said the other night that for six years the time of this Committee has been taken up with this controversial matter that hasn't gotten us anywhere. I would like to see the House adopt a motion that that should go before the regular Committee on Medical Economics."

President Markley: "Will somebody present a motion to the effect that the material contained in the discussion regarding that report of the Advisory Committee be ordered presented to the incoming Advisory Committee?"

Dr. Mugrage so moved; seconded by Dr. Laff and carried. The President called for a further report of the Committee on Resolutions and New Business. Dr. Schoen presented the following resolution:

RESOLUTION

Whereas, it is fitting that the Colorado State Medical Society go on record in appreciation of the efforts that have been put forth to make this Sixty-sixth Annual Session a success, scientifically, fraternally, and in the Society's business actions; now therefore

Be it Resolved, by the House of Delegates of the Colorado State Medical Society:

That the sincere thanks of the Society are hereby expressed to our Committee on Scientific Work, to our Committee on Arrangements, to the Hotel Colorado, and to those many others in Glenwood Springs and its environs who have contributed their time and energy to the pleasure and benefit of this Society; and

Be it Further Resolved: That the House of Delegates express its adoption of this Resolution by an unanimous standing vote.

K. D. A. ALLEN, Chairman
W. A. SCHOEN

Dr. Schoen moved adoption of the foregoing resolution; seconded by Dr. Laff and carried. A

standing vote was then accorded, as specified in the resolution.

The President asked for other reports.

Dr. Madler: "Mr. President, I wonder whether the House is going to do anything about the excellent address of Dr. Cole along the line of syphilis eradication. I feel as though we have done so much with cancer and tuberculosis in postgraduate education, that this is a timely opportunity to do something in the way of syphilis education."

President Markley: "The Chair will entertain a motion that this suggestion of Dr. Madler's be referred to the Board of Trustees for appropriate action."

Dr. Laff so moved; seconded by Dr. Schoen and carried.

Dr. Markley then introduced the Fraternal Delegate from California, Dr. Harry A. Smith.

Dr. Smith: "Mr. President, Gentlemen of the House of Delegates: I have been through at least twenty of these meetings of this same House of Delegates, and I realize how rushed the Chair is for time at this particular moment. My remarks will be exceedingly brief.

"I have been away for several years. The only thing I see in coming back to Colorado is improvement and advancement in the conduct of the meeting and in the scientific program. I think things are better than in the old days.

"As Fraternal Delegate from California I want to express the desire that you come to any of our meetings there. We are striving to carry on the same ideals that you are presenting at this meeting." (Applause.)

President Markley asked the Executive Secretary if there was any new or further business. Mr. Sethman stated that his desk was clear.

President Markley: "Now it is my very particular pleasure to present to you this morning your choice for President-elect,—a man whom we have all known and for whom we all have had the highest regard for many years,—one of the most faithful, enthusiastic, useful, and valuable members of the Colorado State Medical Society,—Dr. W. T. H. Baker."

Dr. Baker: "Mr. Chairman, Members of the House of Delegates: When I was notified yesterday that the Nominating Committee had seen fit to place my name before you as a candidate for this honored office, I saw one of my old and trusted friends, a man whom I greatly respect and in whose judgment I have the greatest confidence. I said, 'Possibly I will have to say something to the House about this.'

"He said, 'For goodness' sake, don't tell them that it came as a great surprise.'

"I feel that as we work for the interests of the Society year in and year out,—and I have been a member of this Society since 1897 and have attended a great many of the meetings,—in time perhaps our work may be recognized. If it isn't recognized, we at least have had the courage of our convictions, and feel that we have done the right thing.

"When I heard the different ex-Presidents, and when Dr. Work read over the list of the men who had been Presidents of this Society, the names of a great many were familiar to me. Some of them I did not know, but most of them I did. I realized then that if I were elected to this office it would be a most difficult undertaking and a great responsibility.

"It is only with your cooperation and your help, such as you have given to other Presidents, that we can carry on and effect in some small way the measure of success that these other men have accomplished.

"I know that we can count upon you. With your help we will do the very best that we can, and we hope to make this coming year one of the good years of this Society.

"I do want to take this occasion to thank you for the honor that has been conferred upon me and to promise you that I will do the very, very best that I can." (Applause.)

Dr. Bouslog: "Mr. President, the hour of 9:50 having arrived, I move that this House of Delegates adjourn sine die."

Motion seconded and carried.

Adjournment.

The foregoing minutes of the House of Delegates of The Colorado State Medical Society, Sixty-sixth Annual Session, are hereby respectfully submitted to The Society.

HARVEY T. SETHMAN,
Executive Secretary.

SPECIAL MEETING
THE COLORADO STATE MEDICAL SOCIETY

The Hotel Colorado, Glenwood Springs, Colo.
Saturday, September 12, 1936, 2:00 p. m.

Minutes in Detail

A special meeting of The Colorado State Medical Society was held at The Hotel Colorado, Glenwood Springs, Colorado, on Saturday, September 12, A. D. 1936, at two o'clock p. m. The meeting was called to order by the President, Dr. A. J. Markley, who thereupon directed the Secretary, Mr. H. T. Sethman, to announce the reasons for the Special Meeting.

Secretary Sethman thereupon read the Resolution of the Board of Trustees of the Society, passed July 8, 1936, authorizing the Special Meeting and directing the President and Secretary to call the same; read the notice of the special Meeting prepared by the President and Secretary according to law, together with the publisher's certificate showing that said notice was published as required by law in the Daily Journal, a newspaper of general circulation published in the City and County of Denver; and certified to the President that a copy of the said notice was mailed by first class mail to every member of the Society, including every Active Member, every Associate Member, and every Honorary Member, as required by law.

President Markley: "This meeting therefore is duly and legally authorized to proceed with the business announced."

The Chair recognized Dr. George A. Unfug, a member of the Society.

Dr. Unfug: "It has become my privilege to introduce a resolution which is necessary to change the Articles of Incorporation. They are quite voluminous, but it is absolutely necessary that they be read in full."

Dr. Unfug then read the following Resolution:

RESOLUTION

Resolved, That Whereas, The Colorado State Medical Society was incorporated October 31st, 1888, and since that time has grown from a small organization into one of much larger membership and of greater importance; and

Whereas, The said Articles of Incorporation do not meet the present conditions and requirements

of the corporation as fully and completely as should be done in the following respects, namely:

1. In stating the purposes and objects of The Society;

2. In stating the number of trustees desirable;

3. In failing to make provision for The Society's constitution;

4. In failing to define various classes of membership and the manner of their election;

5. In failing to provide for a House of Delegates;

6. In failing to provide that cumulative voting shall not be permitted.

NOW, THEREFORE, BE IT RESOLVED:

That Article II of the Articles of Incorporation be amended to read as follows:

ARTICLE II

Objects and Powers

This Society is organized and shall be conducted for CHARITABLE and EDUCATIONAL PURPOSES, and shall be operated strictly as a NOT FOR PROFIT organization so that no part of the net earnings of said Society, if any, shall inure to the benefit of any private individual or member.

The general purposes of this Society are hereby declared to be to promote the science and art of medicine; the betterment of public health and the welfare of the medical profession; to promote the similar interests of its component County and District Medical Societies; to unite with similar organizations in other states and territories of the United States to form the American Medical Association.

In order to carry out the foregoing general objects and purposes of this Society, it shall have the power to give financial aid to any cause or institution, the primary objects of which are to improve the health of the citizens of the State of Colorado; to aid in problems of research which directly or indirectly concern the health of the people of the State of Colorado; to aid by loan, gift or grant any charitable or general social purpose or program of activity which is directly or indirectly concerned with the improvement of the health of the people of this State or the welfare of the Doctors of Medicine; to aid by loan or gift any Doctor of Medicine or widow or children of any Doctor of Medicine who may be in need; to conduct annual meetings or conventions of this Society or other educational, postgraduate or clinical meetings for the benefit of the Society and to pay the cost thereof; to acquire, establish, support and maintain meeting halls, offices, club rooms, library, reading rooms, research laboratories and other facilities consistent with the general purposes of this Society, and to acquire by purchase, lease or otherwise property for said purposes; to create a trust fund or funds for a foundation for the promotion of the general health and welfare of the people of the State of Colorado, and the welfare of the medical profession of this State; to form or recognize component societies in such manner as may be provided by the Constitution or By-Laws of the Society, and generally this Society shall have the power to do any and all things consistent with the general objects and purposes for which this Society is formed and not now or hereafter prohibited by law.

The foregoing recital of powers is by way of enumeration and shall not be constructed to be a limitation, but merely indicative of the types of activity contemplated by this Society.

BE IT FURTHER RESOLVED:

That Article III be amended to read as follows:

ARTICLE III

Trustees

The affairs of this Society shall be conducted and managed by a board of nine trustees, which board shall consist of the President, President-Elect, Vice President, Secretary, Treasurer and four other trustees, all of whom shall be elected from the members of said Society at such time, in such manner and for such terms as may be now or hereafter provided by said Society.

The Trustees of this Society shall have the power to make such prudential By-Laws not inconsistent with the law, and not inconsistent with the general objects and purposes of this Society as they may from time to time deem proper.

BE IT FURTHER RESOLVED:

That Article V be amended to read as follows:

ARTICLE V

Place of Business

The business of said Society may be carried on in all the Counties of the State, but its chief office shall be in the City and County of Denver.

BE IT FURTHER RESOLVED:

That Article VI be amended to read as follows:

ARTICLE VI

Constitution and By-Laws

The Society shall have the power to adopt a Constitution for the government and regulation of said Society, and By-Laws consistent with the general objects and purposes of The Society, and not in conflict with the laws of this State.

BE IT FURTHER RESOLVED:

That the said Articles of Incorporation be further amended by the addition of an article entitled Membership and designated as number VII, to-wit:

ARTICLE VII

Membership

Section 1. The members of this Society shall be classified as Active Members, Associate Members and Honorary Members.

Section 2. Active Members of this Society shall be those members of component societies who are in good standing as active members of their respective component societies and who have been so certified to the headquarters of this Society. Associate members of this Society shall be those who have been elected by component societies to any form of component society membership except active membership. Honorary Members of this Society shall be those who have been elected to such membership by the House of Delegates.

Section 3. Active Members shall have all the rights and privileges of The Society. The rights and privileges of Associate and Honorary Members shall be determined by By-Laws enacted hereunder.

BE IT FURTHER RESOLVED:

That the said Articles be amended by the addition of an article entitled House of Delegates and designated as number VIII, to-wit:

ARTICLE VIII

House of Delegates

The Society may create a legislative body to be known as the House of Delegates of The Colorado State Medical Society, in such manner as is now or hereafter provided, either by Constitution or By-Laws of this Society, with such powers as may be conferred upon or delegated to said House of Delegates by vote of this Society.

BE IT FURTHER RESOLVED:

That said Articles of Incorporation be amended by the addition of an article entitled Cumulalative Voting and designated as Number IX,, to-wit:

ARTICLE IX

Cumulative Voting

Cumulative voting shall not be permitted.

AND BE IT FURTHER RESOLVED:

That the amended articles as a whole read as follows:

AMENDED ARTICLES OF INCORPORATION OF THE COLORADO STATE MEDICAL SOCIETY

ARTICLE I

Name

The corporate name of the said Association shall be "The Colorado State Medical Society."

ARTICLE II
Objects and Powers

This Society is organized and shall be conducted for CHARITABLE and EDUCATIONAL PURPOSES, and shall be operated strictly as a NOT FOR PROFIT organization so that no part of the net earnings of said Society, if any, shall inure to the benefit of any private individual or member.

The general purposes of this Society are hereby declared to be to promote the science and art of medicine; the betterment of public health and the welfare of the medical profession; to promote the similar interests of its component County and District Medical Societies; to unite with similar organizations in other states and territories of the United States to form the American Medical Association.

In order to carry out the foregoing general objects and purposes of this Society, it shall have the power to give financial aid to any cause or institution, the primary objects of which are to improve the health of the citizens of the State of Colorado; to aid in problems of research which directly or indirectly concern the health of the people of the State of Colorado; to aid by loan, gift or grant any charitable or general social purpose or program of activity which is directly or indirectly concerned with the improvement of the health of the people of this State or the welfare of the Doctors of Medicine; to aid by loan or gift any Doctor of Medicine or widow or children of any Doctor of Medicine who may be in need; to conduct annual meetings or conventions of this Society or other educational, postgraduate or clinical meetings for the benefit of The Society and to pay the cost thereof; to acquire, establish, support and maintain meeting halls, offices, club rooms, library, reading rooms, research laboratories and other facilities consistent with the general purposes of this Society, and to acquire by purchase, lease or otherwise property for said purposes; to create a trust fund or funds for a foundation for the promotion of the general health and welfare of the people of the State of Colorado, and the welfare of the medical profession of this State; to form or recognize component societies in such manner as may be provided by the Constitution or By-Laws of the Society, and generally this Society shall have the power to do any and all things consistent with the general objects and purposes for which this Society is formed and not now or hereafter prohibited by law.

The foregoing recital of powers is by way of enumeration and shall not be construed to be a limitation, but merely indicative of the types of activity contemplated by this Society.

ARTICLE III
Trustees

The affairs of this Society shall be conducted and managed by a board of nine trustees, which board shall consist of the President, President-Elect, Vice President, Secretary, Treasurer and four other trustees, all of whom shall be elected from the members of said Society at such time, in such manner and for such terms as may be now or hereafter provided by said Society.

The Trustees of this Society shall have the power to make such prudential By-Laws not inconsistent with the law, and not inconsistent with the general objects and purposes of this Society as they may from time to time deem proper.

ARTICLE IV
Term of Corporate Existence

The term of the corporate existence of the said Association shall be perpetual.

ARTICLE V
Place of Business

The business of said Society may be carried on in all the Counties of the State, but its chief office shall be in the City and County of Denver.

ARTICLE VI
Constitution and By-Laws

The Society shall have the power to adopt a Constitution for the government and regulation of said Society, and By-Laws consistent with the general objects and purposes of The Society, and not in conflict with the laws of this State.

ARTICLE VII
Membership

Section 1. The members of this Society shall be classified as Active Members, Associate Members and Honorary Members.

Section 2. Active Members of this Society shall be those members of component societies who are in good standing as active members of their respective component societies and who have been so certified to the headquarters of this Society. Associate Members of this Society shall be those who have been elected by component societies to any form of component society membership except active membership. Honorary Members of this Society shall be those who have been elected to such membership by the House of Delegates.

Section 3. Active Members shall have all the rights and privileges of The Society. The rights and privileges of Associate and Honorary Members shall be determined by By-Laws enacted hereunder.

ARTICLE VIII
House of Delegates

The Society may create a legislative body to be known as the House of Delegates of the State Medical Society, in such manner as is now or hereafter provided, either by Constitution or By-Laws of this Society, with such powers as may be conferred upon or delegated to said House of Delegates by vote of this Society.

ARTICLE IX
Cumulative Voting

Cumulative voting shall not be permitted.

Dr. Unfug: "Mr. President, I move the adoption of this Resolution.

The motion was seconded by Dr. C. F. Kemper, a member of the Society.

The question being upon the adoption of said resolution, the members proceeded to vote upon the same, and it appearing that more than two-thirds of all the members of The Society present voted in the affirmative, President Markley declared the motion carried and declared the resolution adopted.

President Markley: "The Chair will again recognize Dr. Unfug."

Dr. Unfug: "Mr. President, I have another resolution."

Dr. Unfug then offered the following Resolution:

RESOLUTION

RESOLVED, That the President and Secretary of The Colorado State Medical Society be and they are hereby authorized and directed to make, verify and file such certificate as may be necessary or required by law to carry into effect the changes adopted by said corporation by amendments to its Articles of Incorporation.

Dr. Unfug moved the adoption of this Resolution. The motion was seconded by Dr. E. R. Mugrage, a member of The Society.

The question being upon the adoption of said Resolution, the members proceeded to vote upon the same, and it appearing that more than a majority of all the members of The Society present voted in the affirmative, President Markley declared the motion carried and declared the Resolution adopted.

President Markley: "There being no further business to come before this Special Meeting of The Colorado State Medical Society, I hereby declare the meeting adjourned."

ADJOURNMENT.

The foregoing minutes of the Special Meeting of The Colorado State Medical Society held September 12, 1936, at the Hotel Colorado, Glenwood Springs, are hereby respectfully submitted to The Society.

HARVEY T. SETHMAN,
Executive Secretary.

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COLORADO STATE MEDICAL SOCIETY

Officers, 1936-1937

President: A. J. Markley, Denver.

President-elect: W. T. H. Baker, Pueblo.

Vice President: Albert C. McClanahan, Delta.

Constitutional Sec'y.: J. S. Bouslog, Denver (1939).

Treasurer: J. B. Hartwell, Colorado Springs (1938).

Trustee: A. C. Sudan, Kremmling (1939).

Trustee: W. Bernard Yegge, Denver (1938).

Trustee: Leo W. Bortree, Colorado Springs (1937).

Trustee: O. M. Gilbert, Boulder (1937).

(The above nine officers compose the Board of Trustees of the Society of which Dr. Markley is the 1936-1937 Chairman)

Councillors:

Dist. No. 1 F. W. Lockwood, Fort Morgan....1939
Dist. No. 2 Ella A. Mead, Greeley....1939
Dist. No. 3 George P. Lingenfelter, Denver....1939
Dist. No. 4 Clyde T. Knuckey, Lamar....1938
Dist. No. 5 W. L. Newburn, Trinidad....1938
Dist. No. 6 C. Rex Fuller, Salida....1938
Dist No. 7 A. L. Burnett, Durango....1937
Dist. No. 8 Lee Bast, Delta....1937
Dist. No. 9 W. W. Crook, Glenwood Springs....1937

(The above nine officers compose the Board of Councillors of the Society, of which Dr. Crook is the 1936-1937 Chairman)

Delegates to American Medical Association:

Harold T. Low, Pueblo....1937
Alternate: John Andrew, Longmont....1937
John W. Amesse, Denver....1938
Alternate: J. B. Crouch, Colorado Springs....1938

Foundation Advocate: W. W. King, Denver....1937

Executive Secretary: Mr. Harvey T. Sethman, 537 Republic Bldg., Denver; telephone KEystone 0870.

Standing Committees, 1936-1937

Credentials: J. S. Bouslog, Denver, Chairman; H. I. Laff, Denver; W. A. Schoen, Greeley; W. K. Hills, Colorado Springs; E. H. Munro, Grand Junction.

Public Policy: Gerrit Heusinkveld, Denver, Chairman; W. H. Halley, Denver, Vice Chairman; H. I. Barnard, Denver; B. B. Jaffa, Denver; W. W. Haggart, Denver; G. H. Curfman, Salida; C. H. Boissevain, Colorado Springs; C. H. Platz, Fort Collins; C. N. Caldwell, Pueblo; A. J. Markley, Denver, ex-officio; J. S. Bouslog, Denver, ex-officio.

Scientific Work: Thad P. Sears, Denver; Chairman; F. M. Heller, Pueblo; Philip Hillkowitz, Denver.

Arrangements: J. B. Crouch, Colorado Springs, Chairman; W. A. Campbell, Jr., Colorado Springs; J. J. Mahoney, Colorado Springs; W. W. Crook, Glenwood Springs.

Publication: C. S. Bluemel, Denver (1937), Chairman; Osgoode S. Philpott, Denver (1938); C. F. Kemper, Denver (1939).

Medical Defense: Edward Delehanty, Denver (1937), Chairman; T. E. Beyer, Denver (1938); F. B. Stephenson, Denver (1939).

Medical Education and Hospitals: Maurice Katzman, Denver, Chairman; J. B. Farley, Pueblo; John Andrew, Longmont.

Library and Medical Literature: J. J. Waring, Denver, Chairman; Ward Darley, Denver; G. B. Webb, Colorado Springs.

Cooperation with Allied Professions: John R. Evans, Denver, Chairman; George W. Miel, Denver; Harry C. Bryan, Colorado Springs.

Medical Economics: W. W. Wasson, Denver, Chairman; J. G. Hutton, Denver; C. F. Kemper, Denver; C. E. Cooper, Denver, Special Advisor.

Necrology: C. B. Dyde, Greeley, Chairman; A. C. McClanahan, Delta; Frank R. Spencer, Boulder.

Special Committees, 1936-1937

Postgraduate Clinics: Atha Thomas, Denver, Chairman; P. J. Connor, Denver; G. M. Blickensderfer, Denver; Leonard N. Myers, Cheyenne Wells; George M. Myers, Pueblo.

Cancer Education: George A. Unfug, Pueblo (1937); G. H. Curfman, Salida (1937); J. E. Naugle, Sterling (1937); C. W. Maynard, Pueblo (1938); H. S. Finney, Denver (1938); Sanford Withers, Denver (1938), Chairman; E. S. Auer, Denver (1939); C. F. Hegner, Denver (1939); C. D. Bonham, Boulder (1939).

Tuberculosis Education: H. J. Corper, Denver, Chairman; C. O. Giese, Colorado Springs; J. H. Daniel, Sterling; Lee T. Richie, Trinidad; John Zarit, Denver.

Advisory to the School of Medicine: N. A. Madler, Greeley, Chairman; R. W. Hoyt, Denver; E. L. Timmons, Colorado Springs; T. E. Carmody, Denver; W. B. Hardesty, Berthoud.

Advisory to the Department of Health: J. W. Amesse, Denver, Chairman; R. S. Johnston, La Junta; N. L. Beebe, Fort Collins; R. H. Verploeg, Denver; D. A. Vanderhoof, Colorado Springs.

Military Affairs: G. P. Lingenfelter, Denver, Chairman; Duane Hartshorn, Fort Collins; Nolie Mumey, Denver.

Component Societies
Meeting Dates; Secretaries

Adams County—Quarterly, date set by president and secretary; secretary, J. C. Stucki, Brighton.

Arapahoe County—Last Monday of each month; secretary, N. Paul Isbell, Englewood.

Boulder County—Second Thursday of each month; secretary, Howard P. Gilbert, Boulder.

Chaffee County—First Tuesday of each month; secretary, L. E. Thompson, Salida.

Clear Creek Valley—Second Tuesday of each quarter; secretary, Edward P. Fee, Arvada.

Crowley County—Second Wednesday of each month; secretary, W. M. Desmond, Ordway.

Delta County—Last Friday of each month; secretary, E. R. Phillips, Delta.

Denver County—First and third Tuesday of each month; secretary, F. Julian Maier, Denver.

Eastern Colorado—Quarterly, first Monday in December, March, June and September; secretary, W. L. McBride, Selbert.

El Paso County—Second Wednesday of each month, secretary, Harry C. Bryan, Colorado Springs.

Fremont County—Fourth Monday of each month; secretary, Archie Bee, Canon City.

Garfield County—Last Thursday of each month; secretary. R. B. Porter, Glenwood Springs.

Huerfano County—Third Thursday of each month; secretary, James M. Lamme, Walsenburg.

Lake County—First Thursday of each month; secretary, J. C. Strong, Leadville.

Larimer County—First Wednesday of each month; secretary, Thad C. Brown, Fort Collins.

Las Animas County—First Friday of each month; secretary, P. W. Carmichael, Trinidad.

Mesa County—Third Tuesday of each month; secretary, F. J. McDonough, Grand Junction.

Montrose County—First Thursday of each month; secretary, C. E. Lockwood, Montrose.

Morgan County—Last Monday of each quarter; secretary, Paul E. Woodward, Fort Morgan.

Northeast Colorado—Second Thursday in each month; secretary, E. P. Hummel, Sterling.

Northwestern Colorado—Second Thursday of each month; acting secretary, F. E. Willett, Steamboat Springs.

Otero County—Second Friday of each month; secretary, C. E. Morse, La Junta.

Prowers County—First Tuesday of each quarter. secretary, C. T. Knuckey, Lamar.

Pueblo County—First and Third Tuesday of each month; secretary, Jesse W. White, Pueblo.

San Juan—Second Saturday, January, April, July and October; secretary, Charles L. Mason, Durango.

San Luis Valley—Fifteenth of each month; secretary, James R. Hurley, Alamosa.

Washington and Yuma Counties—First Tuesday of each quarter; secretary, M. L. Crawford, Akron.

Weld County—First Monday of each month; secretary, T. C. Wilmoth, Greeley.

BOARD OF TRUSTEES

EXCERPTS FROM MINUTES

Board of Trustees, Oct. 6, 1936
Executive Office, Denver

The Board of Trustees met at 4:00 p. m., with Drs. A. J. Markley, W. T. H. Baker, A. C. McClanahan, J. S. Bouslog, J. B. Hartwell, A. C. Sudan, W. B. Yegge, L. W. Bortree, O. M. Gilbert and Mr. H. T. Sethman present. There were no absentees.

Dr. Markley was elected Chairman of the Board for the 1936-1937 year, and Drs. Yegge, Gilbert and Bouslog were elected as an Executive Committee for the year. Appointments of standing and special committees made to date by President Markley and President-elect Baker were confirmed. The Board authorized the President to appoint a special committee of three to be known as the Committee on Control of Syphilis.

Standing rules concerning Executive Office activities, in addition to existing standing rules of the Board, were adopted in substance as follows:

The twelfth to the twentieth, inclusive, of each calendar month was set aside as a period in which the Executive Secretary and his staff shall be excused from committee activity and travel, so that this period may be devoted to office routine and to Colorado Medicine.

Unless otherwise ordered by the Board, all official Society dinners, lunches and entertainments shall be paid for individually on a "dutch treat" basis, and the Society shall no longer finance such affairs.

No travel expenses shall be paid for any person without special advance authorization of the Board, except routine travel expense of the Executive Secretary for the official visits required by the By-Laws.

The attention of all members is urgently called to the provisions of Chapter X, Section 5, of the By-Laws, which reads as follows:

"Section 5. No officer, Board, Commission, committee or member of the Society may obligate the Society financially in any manner or enter into any contract, agreement or other instrument, either written or verbal, which might lead to or imply financial obligation, unless the same shall have first been approved and authorized by vote of the Board of Trustees."

The Executive Office of the Society may accept collect telegrams and collect long-distance telephone calls only from the headquarters of the American Medical Association and from the President, President-elect, and Treasurer of this Society, and only from them on Society business. This rule shall not be construed to bar the reimbursement of charges for such communications from other persons after their receipt, when such communications may be approved after their receipt by the Board of Trustees as chargeable to Society business.

All gifts, or documents certifying to gifts, designed for transmission to the Colorado Medical Foundation, coming into the hands of any member of the Society, shall be transmitted to the Executive Secretary, who shall make a record of the same, transmit the same to the International Trust Company of Denver as Trustee for the Foundation, and take the receipt of the Trust Company for the same.

The Board ruled, under the By-Laws, that physicians elected to membership between Oct. 1, 1936, and Dec. 31, 1936, in any component society, shall, upon payment of a full calendar year's dues at the time of election, be credited with payment of dues from the date of election to and including Dec. 31, 1937. The effect of the revised By-Laws relating to elections to membership late in the year, and the corresponding adjustment of annual dues under the authority of the Board, will be placed in full effect in the calendar year of 1937.

The Board authorized routine appropriations, and carried out such special appropriations as were authorized by the House of Delegates at the Glenwood Springs meeting. Other routine financial actions including authorization of the Treasurer to sell and reinvest certain of the Society's bonds now subject to call.

The Executive Committee was empowered to fix dates for the Sixty-seventh Annual Session in Colorado Springs.

At 6:30 p. m. the Board recessed briefly and reconvened at dinner at the Navarre Cafe in joint conference with the chairmen of all standing and special committees. Following dinner, President Markley and each member of the Board briefly addressed the group on projects for the year's Society activity. Each committee chairman was then called upon to present a tentative program for his committee for the year, and each such report was generally discussed. Attending, in addition to the full membership of the Board of Trustees and the Executive Secretary, were Drs. T. P. Sears, Atha Thomas, G. Heusinkveld, W. H Halley, C. S. Bluemel, Edward Delehanty, Maurice Katzman, Ward Darley, J. R. Evans, W. W. Wasson, Sanford Withers, H. J. Corper, N. A. Madler, G. P. Lingenfelter, J. W. Amesse, and K. D. A. Allen, representing seventeen standing and special committees.

MEDICAL SOCIETIES

ARAPAHOE COUNTY

A joint meeting of the Arapahoe County Medical Society and its Woman's Auxiliary was held Monday evening, October 26, at the home of Dr. W. C. Crysler at Littleton. The ladies served a dinner to the group at seven o'clock. Officers of the State Medical Society were guest speakers. Dr. A. J. Markley, President, discussed the United States Public Health Service Program for syphilis control, and Dr. W. T. H. Baker, President-elect, talked on "The Business Side of Medical Practice." Dr. G. Heusinkveld, Chairman of the Public Policy Committee, talked on the Basic Science Law, and Mr. H. T. Sethman, Executive Secretary, talked on "The Rocky Mountain Medical Conference for 1937."

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ARKANSAS VALLEY MEDICAL ASSOCIATION

The semi-annual meeting of the Arkansas Valley Medical Association was held at Salida Saturday, Oct. 24, 1936, with Dr. L. E. Thompson, President, presiding. The morning program included "Non-tuberculous Diseases of the Lungs," by Dr. B. F. Konwaler, Pueblo; "Surgical Aspects of Carcinoma of the Colon," by Dr. K. B. Castleton, Salt Lake City, and "Interpretation of Electrocardiograms," by Dr. Emeric I. Dobos of Denver. Following a luncheon, the meeting adjourned to see the football game between Salida High School and Pueblo Central High School, which Salida won by the score of 21-0. An open house at the Elks Club with the ladies followed before dinner. Drs. A. J. Markley, President; W. W. King, Past President, and G. Heusinkveld, Public Policy Chairman, of the State Medical Society, addressed the dinner. Greetings and brief of discussion of the proposed Rocky Mountain Medical Conference were brought by Dr. Castleton for the Utah State Medical Association, and Mr.

Harvey Sethman, Executive Secretary of the Colorado State Society. At the close of the meeting a special tribute was paid to Dr. George H. Curfman of Salida, who is soon moving permanently to Denver to become Chief Surgeon of the Rio Grande Railroad.

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BOULDER COUNTY

President A. J. Markley of the Colorado State Medical Society was the principal speaker at the October meeting of the Society, held at dinner at the Boulderado Hotel October 15. He discussed the problem of syphilis control and asked the members to prepare themselves to receive a program for syphilis control in the very near future. Dr. W. W. King, Denver, the immediate past-president of the State Society, and Mr. H. T. Sethman, Executive Secretary, also were guests at this meeting. Dr. King talked on the Colorado Medical Foundation, and Mr. Sethman discussed policies of the State Society in the coming election and legislative session.

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CHAFFEE COUNTY

Officers of the State Medical Society were guest speakers at a special meeting of the Chaffee County Medical Society held at Salida Thursday evening, October 8. President A. J. Markley, Denver, spoke on "Organization Problems for This Year," and on "Why We Must Institute a Program for the Control of Syphilis." President-elect W. T. H. Baker, Pueblo, spoke on "The Business Side of Medical Practice." Dr. G. Heusinkveld, Chairman of the Committee on Public Policy, discussed "The Coming Election and the Coming Legislature." Mr. Harvey T. Sethman, Executive Secretary, talked on "The Colorado Medical Foundation." Final Plans were laid at this meeting for entertainment of the Arkansas Valley Medical Association in Salida on October 24.

L. E. THOMPSON,
Secretary.

* * *

DELTA, GARFIELD, MESA, MONTROSE COUNTIES

A special joint meeting of four county societies, representing Delta, Mesa, Montrose, and Garfield counties, was held October 9, 1936, at Delta to hear officers of the State Medical Society present current problems. Each of the four societies was well represented. The meeting opened with a dinner at the Delta House. Dr. A. H. Gould of Paonia, Vice President of the Delta County Society, presided. Dr. A. J. Markley, President of the State Society, addressed the joint meeting on "The Possibility for Controlling Syphilis," and urged members to prepare themselves to undertake a program of syphilis control in the near future. Dr. W. T. H. Baker, President-Elect of the State Society, discussed briefly certain matters pertaining to office records and malpractice insurance. Dr. Gerrit Heusinkveld, Chairman of the state Public Policy Committee, discussed legislative problems and the Basic Science Law. Mr. Harvey Sethman, Executive Secretary, talked on "New Undertakings of the State Society for 1937." The members present assured the speakers of ccoperation in these matters.

The regular meeting of the Delta County Medical Society for September, was postponed one week and held Oct. 2 at Dr. Cleland's office in Delta. Dr. A. C. McClanahan reported to the Society on transactions of the House of Delegates of the State Society at the Glenwood Springs Annual Session. Miss Foster, Delta County Health Nurse, briefly outlined her work. Dr. McClanahan also addressed the Society on the subject, "Does Morphine Inhibit Intestinal Peristalsis?"

E. R. PHILLIPS,
Secretary.

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EASTERN COLORADO

A special meeting of the Eastern Colorado Medical Society was held October 7 at Stratton, Colo., at 7:30 p. m., to hear Dr. Vera H. Jones, director of the Crippled Children's Program under the State Department of Health. Dr. Jones presented the program in detail, and the talk was followed by a round-table discussion of this part of the social security program.

W. L. McBRIDE,
Secretary.

* * *

EL PASO COUNTY

The October meeting of the El Paso County Medical Society was held at the Broadmoor Golf Club on Wednesday, October 14, following a subscription dinner. Drs. Henry W. Haig, Irving H. Schwab, and James J. Barfield were elected to membership. The program, by officials of the Colorado State Medical Society, included: "The Possibilities of Controlling Syphilis in Colorado," by Dr. A. J. Markley, state president; "Public Policies of the State Society for 1937," by Dr. William H. Halley, Vice Chairman of the Public Policy Committee; "Progress with the Colorado Medical Foundation," by Dr. Walter W. King, Foundation Advocate; and "The Rocky Mountain Medifcal Conference," by Harvey T. Sethman, Executive Secretary. The November meeting of the Society will be devoted to a special cancer program given under the auspices of the Cancer Committee of the State Society.

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FREMONT COUNTY

Dr. W. T. Little of Canon City addressed the Fremont County Medical Society September 28, 1936, on "Addison's Disease," and reported two cases. This was the regular monthly meeting of the Society.

A. BEE,
Secretary.

* * *

PUEBLO COUNTY

Dr. George E. Rice addressed the Pueblo County Medical Society on "The Approach to a Diagnosis in Thyroid Disease" at the Society's first October meeting, held at the Vail Hotel, Pueblo, October 6, 1936.

At the second meeting of the month, held at the Vail Hotel, October 20, Dr. Charles O. Giese of Colorado Springs gave a short talk on the Tuberculosis Amendment which is to be voted upon at the November election, and Dr. W. T. H. Baker reported a case of dog bite of the face.

J. W. WHITE,
Secretary.

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SAN JUAN MEDICAL SOCIETY

Representatives of the Colorado State Medical Society were guests at the regular quarterly meeting of the society October 10, 1936, in Durango. The meeting was preceded by a dinner at the Strater Hotel, and the Society was called to order in the office of Dr. A. L. Burnett at 8 o'clock, with Dr. H. A. Lingenfelter, vice president, in the chair. The program consisted of Dr. A. J. Markley, state president, who presented "The Possibility for Controlling Syphilis;" Dr.

W. T. H. Baker, president-elect of the State Society, on "The Business Side of Medical Practice!" Dr. Walter W. King, past president, on "Progress With the Colorado Medical Foundation;" Dr. G. Heusinkveld, who talked on the Public Policy Committee's work toward the next legislative session, and Harvey T. Sethman, executive secretary, who discussed "The Rocky Mountain Medical Conference for 1937." A general discussion followed the papers, and the Society gave a vote of thanks to the state officers for their visit to the society.

CHARLES L. MASON,
Secretary.

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SAN LUIS VALLEY

The San Luis Valley Medical Society met Sunday evening, October 11, at Alamosa, in special session to hear five officers of the State Medical Society. Drs. A. J. Markley, President; W. T. H. Baker, President-elect; W. W. King, Foundation Advocate, and Gerrit Heusinkveld, Public Policy Chairman, and Mr. Harvey Sethman, Executive Secretary, were the guest speakers. Dr. Markley talked on the proposal of the U. S. Public Health Service for control of syphilis. Dr. King presented "Progress With the Colorado Medical Foundation," and Dr. Heusinkveld talked on political and legislative problems of the Society. Dr. Baker and Mr. Sethman brought official greetings and announcements of state activities. Seventeen attended the meeting, in spite of deer hunting season being just opened.

I. L. GOTTHELF,
President.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

The next written examinations and review of case histories of Group B applicants by the American Board of Obstetrics and Gynecology will be held in the various cities in the United States and Canada on Saturday, November 7, 1936, and on Saturday, March 6, 1937.

The next general examination for all candidates (Groups A and B) will be held in Atlantic City, N. J., on June 8 and 9, 1937.

Application blanks and booklets of information may be obtained from Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburgh, Pennsylvania. Applications for these examinations must be filed in the Secretary's office not later than sixty days prior to the scheduled date of examination.

POSTPONEMENT NOTICE

The first International Conference on Fever Therapy, originally scheduled for the end of September, 1936, has been postponed because of numerous requests, to permit more time for the preparation of material. The new dates set for this Conference are March 30 to April 2, 1937. The sessions will be held at the College of Physicians and Surgeons, Columbia University, New York City.

The advances in the treatment of gonorrhea, syphilis, and other diseases by pyretotherapy are of great social significance. Invitations on behalf of the Conference will be issued by the State Department of the United States to Ministries of Public Health of other countries. The Medical Departments of the Army, the Navy, and the Public Health Service of the U. S. A. will be represented, as will also the New York City Departments of Health and of Hospitals.

A tour has been arranged to take place immediately following the conference, to enable physicians to observe the technics employed in fever therapy in some of the hospitals in the eastern section of the United States. Among the institutions to be visited are the Strong Memorial Hospital of the University of Rochester, New York; the Henry Ford Hospital, Detroit; the Mayo Clinic, Rochester, Minnesota; th eKettering Institute for Medical Research at the Miami Valley Hospital, Dayton; Northwestern University Medical School, Chicago.

Further information regarding the Conference may be obtained from the General Secretary, Dr. William Bierman, 471 Park Avenue, New York City, U. S. A.

AMERICAN ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

Colorado was well represented at the meeting of the American Academy of Ophthalmology and Otolaryngology held in late September at the Waldorf-Astoria Hotel in New York City. The American Board of Ophthalmology and the American Board of Otolaryngology held simultaneous meetings. Those reported in attendance from Colorado include Drs. Edward Jackson, W. H. Crisp, Edna M. Reynolds, R. W. Danielson, Rex Murphy, E. E. McKeown, J. H. Leyda, T. E. Carmody and Whitney Porter of Denver; Drs. Frank R. Spencer, Boulder; G. H. Stine, Colorado Springs; G. H. Hopkins, Pueblo, and J. W. Lehan, Greeley.

Obituary

Charles Delmar Smith

Doctor C. D. Smith of Marvel, Colorado, passed away on October third. He had resided and practiced in that community since 1922 and was well known and highly respected.

Doctor Smith was born in Anward, Indiana, in 1871. Educated in that state, he was a teacher for several years. Later he attended and was graduated from the University of Nashville Medical College in 1899. Practice was established in Logansport, Indiana. Due to impaired health of his wife, he removed to La Plata, New Mexico, where he practiced until 1922, when he moved to Marvel.

Survivors include his wife, Mrs. Mary Louise Smith, his mother, one son, Russell; three brothers and one sister.

Ralph D. Chamberlain

Since 1904, Dr. R. F. Chamberlain had practiced in Denver. He had been very active despite serious physical handicaps. The final illness was protracted, and several operations had been performed. Death occurred at Presbyterian Hospital, Denver.

Dr. Chamberlain was born in Erwin, Pa., and was graduated from the old Western Pennsylvania university, which later became Pittsburgh university. He came to Denver thirty-two years ago and was married here. He was a member of the Colorado and the Denver County Medical societies and the Trinity Methodist Episcopal church.

He is survived by his wife, Mrs. Mary D. Chamberlain; a son, Dodney Chamberlain of Denver, a sister, Mrs. John P. Donohoe of Pittsburgh.

William Potter Allen

One of the pioneer physicians of Eaton passed away following a heart attack on September 18. Doctor Allen came to this district in 1894. His birthplace was in Wisconsin. He was 66 years of age.

Doctor Allen had extensive farming interests in the county. He was a member of the Masonic Lodge and the Modern Woodmen of America. Active in the Weld County Medical Society, he had served as president of that professional organization. He had also been chief of the Greeley Hospital staff.

Among his survivors are his wife and two sisters, Mrs. J. H. Kennedy of Riverside, Calif., and Miss Mame Allen of Long Beach.

WOMAN'S AUXILIARY

Mrs. David S. Long, First Vice President and Chairman of Organization of the National Auxiliary stopped in Denver a few hours on her way East, Sunday, September 6. On very short notice she was met by some of Denver County members and entertained at luncheon at the Denver Country Club. Mrs. Long is very charming and is enthusiastic about her work. She reported a new Auxiliary in Idaho and a growing interest in Montana. A large Auxiliary entertained her at the State Meeting in Utah. Contacts with the National Officers always increase one's interest aud desire to work harder.

ARAPAHOE COUNTY

Arapahoe County Auxiliary is a combination of three counties, Arapahoe, Douglas and Elbert. It has only been organized two years. The outgoing president says that they are all much interested and enjoying the Auxiliary. Since the membership is so scattered many of the members did not know each other, but now new friendships are being formed. They usually meet the same night the County Society meets.

A tea of pretty appointments was held Wednesday afternoon, October 14, 1936, following the business meeting of the Auxiliary to the Arapahoe County Medical Society at the home of Mrs. G. C. Milligan. She was assisted by Mrs. H. H. Alldredge. Fall flowers and colors were used in decorating.

Those present were Mesdames Grant H. John, H. B. Catron, John Simon, J. C. Weidenmann, C. O. Eigler of Englewood, C. G. Moore, Collier, J. E. Otte, E. F. Paul, and W. C. Chrysler of Littleton, W. S. Chapman of Denver, L. E. Dumke of Louviers, W. S. Bennett of Elizabeth, G. E. Alexander of Castle Rock and H. F. Lorimer of Byers.

During the week of October 20 the Denver Medical Society is putting on a drive for the Building Fund at the request of the president, Dr. T. E. Beyer. Lunch is being served by the Denver Auxiliary with the following chairmen in charge:

Tuesday—Mrs. T. E. Beyer.

Wednesday—Mrs. John A. McCaw.

Thursday—Mrs. W. W. King.

Friday—Mrs. Virgil Sells.

MRS. ARNOLD MINNIG.

DENVER

The regular October meeting was held Monday, October 19, 1936, at the Nurses Home of the Denver General Hospital. Mrs. Claude E. Cooper, President, presided and the meeting was noteworthy for the unusually fine attendance. The program was under the direction of Mrs. W. W. King, chairman of the program committee. Dr. T. E. Beyer, President of the Denver County Medical Society, spoke on the drive for the library fund which would begin the following day. Miss Marjorie Forbes, ballet dance teacher, gave two dances. Unfortunately, Miss Virginia Lee King was ill and was unable to render the monodramas which had been planned. The social hour which followed was under the Chairmanship of Mrs. Ivan E. Hix whose committee consisted of Mesdames John W. Amesse, R. W. Arndt, George Bailey, William C. Black, W. E. Blanchard, Lawrence T. Brown, John S. Bouslog, Glenn Cheley, Leonard Crosby, Paul J. Connor, C. Howard Darrow, L. E. Daniels, and Harry C. Brown.

VENEREAL DISEASE INFORMATION

A valuable monthly publication is prepared by the U. S. Public Health Service for distribution among the medical profession throughout the United States. It measures approximately 6 by 9 inches and ranges in size from 25 to 75 pages.

It is the purpose of the Public Health Service in issuing this publication to provide in condensed form a monthly summary of the scientific developments in the diagnosis, treatment, and control of syphilis and gonorrhea. More than three hundred American and foreign journals are reviewed for this work. Abstracts are made of articles describing laboratory, pathologic, and clinical work in the field of venereal diseases.

The most important literature on every phase of the subject is presented in the form of brief abstracts that are easily read. An index for the year is published with the December issue.

During the past year thousands of physicians found this publication useful in enabling them to keep abreast with developments in venereal disease work.

The cost of this publication is only fifty cents per annum, payable in advance to the Superintendent of Documents, Government Printing Office, Washington, D. C. It is desired to remind the reader that this nominal charge represents only a very small portion of the total expense in preparation, the journal being a contribution of the Public Health Service in its program with state and local health departments directed against the venereal diseases. If you wish to secure the valuable service which this monthly magazine provides, send fifty cents to the Superintendent of Documents, Government Printing Office, Washington, D. C.

Coins having a diameter of 1.25 inch or less will pass out of the stomach in a few hours if the patient is placed in the prone posture with the left side slightly elevated on a pillow, preferably after a meal.—The British Medical Journal.

Anorexia and failure to gain in weight in an infant, or stunting of growth in very young children should not be attributed merely to a nutritional disturbance or to bad feeding habits; a careful search should be made for the possible existence of pulmonary lesions even in the absence of respiratory symptoms and physical signs. —The American Journal of Roentgenology and Radium Therapy.

Wyoming Section

NOVEMBER
1936

Editorial

Carbon County Medical Society Charter Revoked

THE action of the House of Delegates at the Cody Meeting in rescinding the charter of the Carbon County Medical Society calls for an explanation, so that those members of the State Society who were not in attendance at the Cody Meeting may understand the circumstances.

For years the Carbon County Society has been a hot-bed of contention and has not been a factor in elevating public opinion of the local medical profession. The absolute refusal of that Society to comply with an order of the Council, sitting as the highest court in our State Society, was the cause of rescinding its charter, thus ending its life.

It was most regrettable that the Carbon County Society refused to comply with the decision of our Council, which Council consulted and was guided by the American Medical Association. The only alternative was for the House of Delegates to rescind the charter. This was done, and the local society is now non-existent and no longer a component of the Wyoming State Medical Society.

The Constitution and By-Laws of the Wyoming State Society provide that charters may be granted to county societies after certain preliminary proceedings have been carried out. The basic idea is that due notice shall be given to all physicians residing in the territory of the proposed county society and that all be allowed to take part in the formation of the county society. However, the Council is not compelled to issue a charter to any newly organized group asking for a charter, if, in the opinion of the Council, such a society would not be advisable. The House of Delegates has nothing to do with the birth of a new county society. That function is limited to the Council, which is made up of three members elected for three-year terms by the House of Delegates, and of which the President and Secretary are members, ex-officio. These five men are the sole judges as to the wisdom and advisability of the issuance of a charter for a county society, or for a group of counties where there are not enough doctors in any one county to form a workable society.

When a county society has been formed, as provided by our Constitution and By-Laws, and has been given a charter by the Council of our State Society, that component Society is then on an equal basis with the same rights and privileges as all other similarly chartered county societies, but no county society is greater than its parent, the State Society. It owes obedience to state orders and decrees just as a minor child is expected to obey the orders of its parent. The action discussed above should prove, for all time, the authority of the Wyoming State Medical Society over the individual local societies.

E. W.

Less damage results from so-called prophylactic methods, including outlet or low forceps with episcotomy, than with spontaneous deliveries.—J.A.M.A.

Sodium compounds administered to patients with Addison's disease will either render them symptomless, or else minimize the amount of cortical extract required to maintain them in relatively good health.—Annals of Internal Medicine.

The following renal disorders have been reported as being common sources of gastro-intestinal symptoms: stricture of the ureter, hydronephrosis, movable kidney, pyelitis, stone.—Annals of Internal Medicine.

FORTY YEARS OF PROGRESS IN MEDICINE*

J. L. WICKS, M.D.
EVANSTON, WYO.

Rather than the discussion of a scientific subject, let us take a look at the pioneer physician of forty years ago. Take one day of his primitive professional experience. Starting from his cabin he travels, not a smooth highway, but an almost unbeaten path to the fort or station or isolated house where his services are in demand. He is a surgeon as well as physician, but his instruments are few in number and crude in design. He travels on horseback with his saddlebags to protect his precious stock. He enters a home that knows nothing of hygiene—dark, crowded, disease-infested. Ignorance and superstition are the substitutes for the sanitation and nursing of our day. Epidemics are considered the act of God—not to be prevented by feeble man. Even his own drugs are considered nauseous and often impure.

Yet this man faces the task before him with a resolute spirit, because he is the only help for the sick. His education may be imperfect, but he has a store of knowledge that he can and does know how to use. His equipment is meagre, but fewer drugs may be better for the patient. His sick are ignorant, but they are usually strong in body, and inured to pain and hardship.

How did he ever succeed? He used his own practice as a hospital experience. Without nurses he made use of the willing hands of the nearest neighbor. He fashioned his own splints; he made his own bandages. He met superstition and ignorance with common sense. He succeeded, though he did not become rich or famous. But he met the hard problems of life, for himself and his people, with a cool head and a stout heart, lessening the suffering he could not prevent, standing with his friends to face unafraid the death he could not stay. In his heart was that love for his fellow man, that willingness to sacrifice his own comfort for others, that in all ages has distinguished the true physician. Of earthly comforts he had few, even as his neighbors, but in possessions of life, of trust, of honor, of all that makes the inner life worth living, he had an abundance.

Often I wonder if we of forty years ago were lucky or unlucky to have started just when we did. I know we were unfortunate in not having the many advantages of good laboratories, implements of precision and the positive remedies we have now, but we were lucky in not having so much expected of us, so many cults and quacks to contend with. Then too, our equipment was so meagre and cost so much less that it did not take a fortune to get started. We were not expected to have a three or four-room office with all its equipment, a graduate nurse to be at our side to answer every beck and call and do much of our work for us. Nor were we expected to have a secretary in our outer office to tell patients the doctor is busy; to make excuses for us, to keep our books and collect our dollars. If we had a one or two-room office, a stethoscope, a clinic thermometer, a pocket instrument case and an obstetrical bag, we were ready for work.

The first calls for the young doctor, in these western states in the early days, as a rule were far out in the country—referred by some older M.D., who did not care so much for the long tedious jaunt. To these patients living far in the country any doctor was a very welcome visitor. Well can I remember some of my early calls which took from twelve to twenty-four hours to complete, instead of an hour or so. I would travel from fifty to one hundred miles and many times behind old dobbin and through thick Wyoming dust. One thing, however, was always very acceptable: we would get a check to bring back with us. We did not have to wait days, weeks and months to get our returns from the medical relief funds.

*Presidential Address delivered before the Thirty-third Annual Meeting of the Wyoming State Medical Society at Cody, Wyoming, August 24, 1936.

The only serum or antitoxin I can remember of having when I started to practice was for diphtheria. This was announced in 1894 by Von Behring. Those were great days in the last decades of the nineteenth century, which brought to light the bacteria producing tuberculosis, typhoid fever, diphtheria and epidemic meningitis, and led to the fundamental discoveries in immunity to diseases. I must mention one startling change in the prevalence of a disease formerly so destructive among children. In 1894, before the use of diphtheria antitoxin was introduced, there died in New York City of this disease 163 per 100,000 of population. In the year 1935, just passed, the deaths were only 3 per 100,000 of population. I might mention here one to the credit of preventive medicine, tuberculosis, the death rate has dropped since 1905 from 275 per 100,000 to 56 per 100,000. These triumphs have led to an increase in the expectation of life, in the culturally advanced countries, of at least twelve years. About this same time (1895) the microbic origin of many diseases was advanced and the mode of infection into the body was established. Syphilis rarely seemed hard to diagnose, but the mode of treatment has indeed changed in the last thirty years. When I was graduated, the diagnosis of syphilis meant mercury internally, externally, and eternally, followed later by iodides. About 1907, the arsenic preparation (606) came out, and we thought we had a panacea for this dread disease. It was supposed to eliminate syphilis with one intravenous dose, but alas, this was soon found to be an erroneous idea.

Rocky Mountain spotted fever was recognized about 1905 or 1906. Just about this time I recall being called about nine miles in the country to see a gentleman about 60 years old. He was a very sick man, running a high temperature, and covered with small hemorrhagic spots. I did not know what to diagnose the condition. I called in two older practitioners, and they knew no more about it than I did. So it went undiagnosed for the time being. About three months later, I noticed in the Journal A.M.A. about one-third of a page describing "Rocky Mountain Spotted Fever." I immediately associated this description with the condition my patient had had. He recovered, not from my treatment, but in spite of it.

Our drugs and ways of prescribing them would furnish some amusement for the younger members of the profession. Calomel was one of the outstanding drugs—10 grains was the dose. It was calomel for malaria, for typhoid, and calomel and quinine for colds, grip and influenza. We did not have the glandular extracts to wonder about. The only one was thyroid extract. The outstanding tonic was I. Q. and S. So with calomel, castor oil and I. Q. and S. we had a fair equipment. Insulin was unknown. We had no typhoid inoculation. Around 1900 every doctor counted on a good business after the middle of the summer and during fall of each year in treating typhoid. We had many long drawn-out cases. We inoculate now for typhoid, scarlet fever, diphtheria, whooping cough, measles and Rocky Mountain spotted fever, influenza and asthma—among others. So you can readily see the future doctor will have very few diseases to treat if he uses all his available means for prevention.

X-ray, which was first shown to the profession in 1896, was ridiculed by many who said it would never be practical. What would we do today without it? We would think it would be next to impossible to practice without it, but forty years ago it was not in existence, so we simply had to adjust fractures by palpation and inspection, and now we are surprised that we got as good results as we did. The discovery of radium about the beginning of the present century by Madam Curie was another outstanding event in medicine.

Pituitrin is one of the outstanding drugs which has come in use since 1900. This would be very much missed by the profession if it were taken away from us today. Many hours did the old doctor sit and wait for pains to come so he might go on his

way, but today this drug lends great assistance in selected cases.

Electric cystoscopes, bronchoscopes, ophthalmoscopes are all comparatively recent acquisitions. Rubber gloves, of course, are commonplace equipment with us today. The discussions that were held in years gone by by the profession as to how best to prevent infection from the operators' hands would fill pages. Well do I remember in 1903, while attending a clinic of the late Dr. John B. Murphy, when he described a combination of drugs, which made a thick mucilage-like substance. This he would anoint his hands with before starting to operate. He claimed it would last and cover the hands for several operations. Murphy's custom was to do three to five major operations in one forenoon.

About the years 1895 to 1900 surgery was starting on a rapid progress. Just a few men here and there had the nerve and thought they had the knowledge, to pursue this line of work. Abdominal surgery was just taking firm root. Operations for appendicits were the discussion of the day. A surgeon performing this operation prided himself on a very small incision—a two-inch incision being the aim of the surgeon. Operations remote from hospitals, and they were far apart then, were done in private homes. They brought the surgeon to the patient instead of the patient to the surgeon. Trained nurses outside of hospitals were almost unknown. The knowledge of bacteriology was acquired slowly and demanded the labors of a very talented man, who succeeded not only through inspiration and effort, but against much opposition. Anesthesia has made marked strides, especially in spinal and local use.

Just a few words now regarding very recent medical progress: Medical discoveries usually represent the culmination of many years of work. In 1932 was announced the discovery of a product to be given in agranulocytic angina, also called malignant neutropenia. This preparation, pentnucleotide, overcomes to some extent a sudden deficiency of white blood cells, characteristic of this disease. White bone marrow extract has since given even greater encouragement. A new drug, called carbarsone, has been developed for use against amebic dysentery. The drug is derived from arsenic. It has been found that methylene blue can be used as an antidote to poisoning by potassium cyanide and by carbon monoxide, discovered in 1932 by Matilda M. Brooks. New experience has been developed with the active principle from the cortex of the suprarenal gland. It has been also discovered that there may be excessive action of the parathyroid glands, leading to serious crippling of the body because of withdrawal of calcium from the bones. This is overcome by surgical removal of the parathyroid glands. Attention has been given to the development of preparations of mucin to be used in ulcer of the stomach. The mucin acts as a protective coat and thus prevents action by the acid of the stomach. New attention has been given to the possibility that germs change their character and their virulence from time to time. This is evident in the special studies being made on the diphtheria organism and on meningitis. New x-ray tubes have been developed in forms exceedingly small, and also in forms capable of delivering higher activity than ever before. Special interest attaches to the expending use of oxygen in the treatment of disease, and to the development of devices for forcing breathing where paralysis interferes. Special studies have been also made on the application of heat in the control of various disease, particularly heat developed by electrical methods, such as placing the person between electrical fields or passing current through the body. A brilliant chapter in the history of science has been written in Cleveland with the performance of the first operation in the history of the world for the relief of angina pectoris, which in the past has been regarded as incurable and eventually fatal. The operation, it has become known, was performed by Dr. Claude S. Beck, assistant professor of surgery at the Western Reserve Medical School, and followed exhaustive laboratory

experiments conducted on animals over a period of years. Because of the uniform success that attended these experiments, the surgeon felt justified in performing the operation on a human being. The patient, whose death was regarded as a matter of only a few days, has not improved satisfactorily.

Dr. O. J. Dixon of Kansas City, announces a method of locating blood clots in the circulatory system. The x-ray cannot locate the blood clot, and doctors with patients suffering from thrombosis can only wait patiently for the clot to travel its dangerous road, often causing death when it reaches the brain or the heart. Dr. Dixon finds it possible to locate the blood clot by injecting a liquid iodin compound, saturated with glucose and chilled. The x-ray reveals the iodin traveling along the blood stream. When it stops, and its shadow ceases to move, the blood clot is located and can be removed surgically.

Every essential thing which I have uttered can be applied equally to disease in animals and even in plants. Everywhere are institutions in which animals and plant pathology are being studied. There are no closed compartments in nature into which man, animals, and plants can be separately placed. All are related organically, and, we may say, united physiologically and pathologically. The malign operation of mosquitoes and other biting insects in conveying disease germs is the same in principle in Texas cattle fever, in malaria and yellow fever in man, and in virus diseases of plants.

What of medicine's future? Scientific prophecies are notoriously dangerous. Benjamin Brodie, you remember, was announcing that men would never find a satisfactory agent for surgical anesthesia at the very moment that the packet with news of ether was on the way to England. Samuel Gross said that surgery had reached the limit of its possibilities and he had never removed an appendix. Similar pronouncements have been heard recently from surgeons. They seem to have a way of being pronounced just when a great burst of progress is imminent. The only safe prediction is that **there is no limit to possible accomplishment!**

May I add a very brief history of the Wyoming State Medical Society: It was organized at Rawlins, Wyoming, on May 13, 1898. Dr. R. Harvey Reed was the founder. He was one of the thirty charter members and was chosen its first president. There are only four or five of those charter members still with us. I was not living in Wyoming at that time, but arrived in December of the same year and became a member the following year. The late Dr. E. E. Lever, who died in Sheridan in 1920, was the first treasurer. I followed him as treasurer, and served from 1899 to 1901. I was then elected president and served for the year 1901-1902. Unfortunately the minutes of the first three or four meetings were not preserved. I can recall only one charter member who is active in our society today. This is Dr. George P. Johnson of Cheyenne. There were meetings at Cheyenne, Rock Springs, and Evanston. Meetings were regular for a few years, and then there was a lack of interest for a number of years. In those days settlements in Wyoming, north of the U. P. R. R. were few and far between and very small, so there were not many doctors. About this time Dr. Reed served two terms in our State Legislature and was also father of our Medical Practice Act and Board of Health Law. He was a writer, organizer, and a leading surgeon in his day. He gave up his work in Rock Springs and went to Los Angeles, where he died in 1907.

Now, what of the future? The doctor of the future will be different. Instead of writing a prescription or dispensing with a liberal amount of suggestions, he will make more accurate diagnoses and prevent disease. The profession of the present and the future have two very grave problems to solve if they are to carry on as in the past: First, prevent State Medicine; second, eliminate the cults. There is no better way to battle the many different cults than to have all states pass a basic science law.

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Annual Meeting

THE completed program for the annual meeting of the Colorado Hospital Association, to be held at the Colorado General Hospital on November Fourth, promises an interesting and instructive day. Papers covering subjects of great interest to all members of the hospital personnel, and particularly to administrators, have been prepared. The one-day session will begin at 9:30 a. m. with registration. A complimentary luncheon will be served and the business session will begin promptly at three o'clock. Adjournment will be at four. The program in detail follows:

Registration—9:30 a. m.

The Social Security Act as It Affects Our Hospitals.—Dr. Vera Jones, Director of Maternal and Child Health, Colorado Division of Public Health, Denver.

Discussion: Msgr. John R. Mulroy, Diocesan Director, Catholic Charities, Denver.

Report of the President—Walter G. Christie, Presbyterian Hospital, Denver.

Group Hospitalization Plans in the United States and Canada—Frank J. Walter, St. Luke's Hospital, Denver.

Luncheon—12:15 p. m., Colorado General Hospital.

Is There a Shortage of Graduate Nurses?—Guy M. Hanner, Beth El General Hospital, Colorado Springs, Colorado.

Discussion: Phoebe Kandel, Colorado State College of Education, Greeley.

Business Session—
Reports of Committees.
Election of Officers.

Adjournment.

Pampered Doctors?

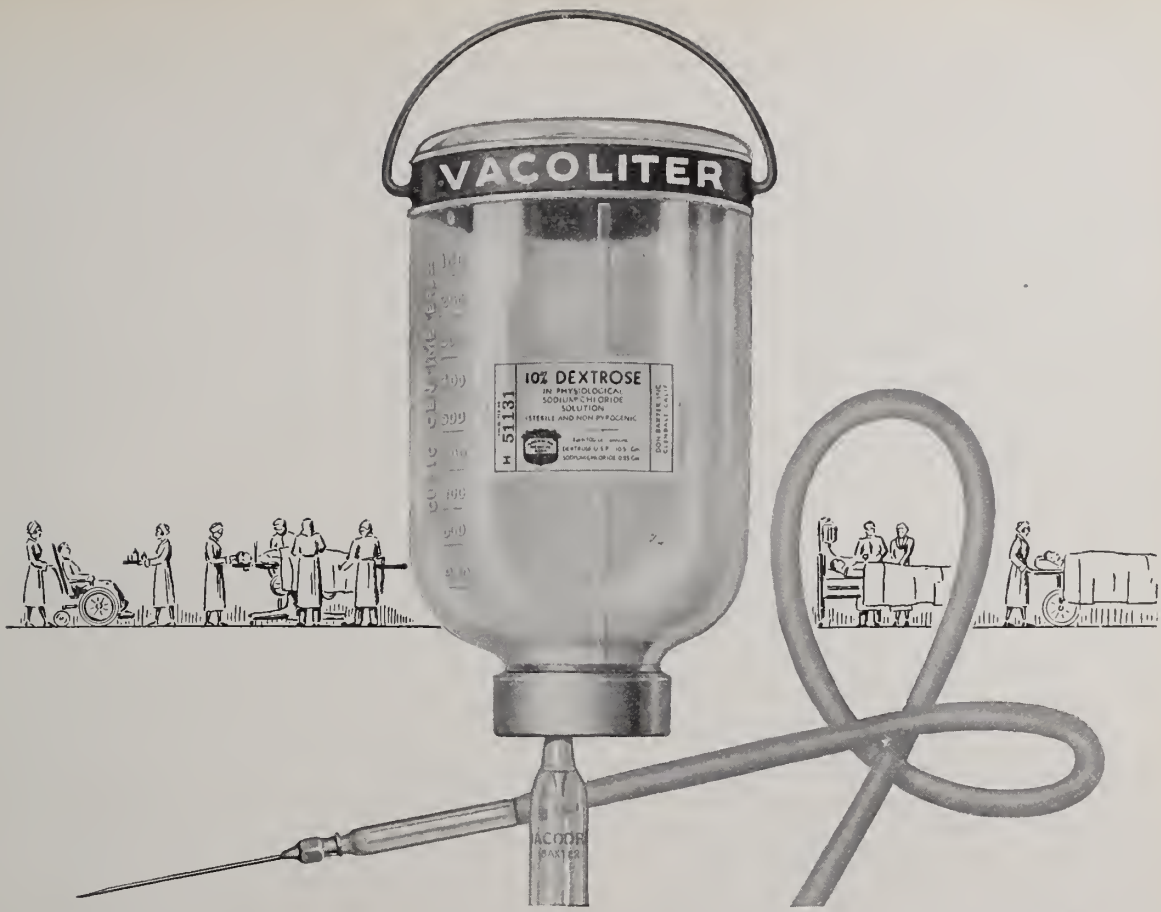
ALTHOUGH the doctor often spends hours in the hospital awaiting developments in a case, and indeed, often spends an entire night, many hospitals make slight or no provision for his comfort. In some institutions a room is set aside in which he may sit, rest, smoke or read. Sometimes reading material, in the form of medical journals, is provided. In one institution these journals bore dates ranging from 1925 to 1934. In another there were several nurses' text books. In some instances the doctor may retire if he so desires, provided there be a vacant room on the floor. Most hospitals provide pleasant quarters for the expectant father. What about the expectant doctor?

A. H. A. Meeting

THE thirty-eighth annual meeting of the American Hospital Association was held in Cleveland, Ohio, from September 28 to October 2, 1936. It was in Cleveland that the American Hospital Association had its origin; and it was therefore very fitting that the Association should again return to its birthplace for an annual convention. The meeting this year was well attended.

The American Protestant Hospital Association held its meeting the previous weekend, and this was followed by a meeting, on Sunday and Monday, of the American College of Hospital Administrators. This group made some very radical changes in its constitution. On Monday, September 28, the sessions of the American Hospital Association opened with a regular business meeting, followed that evening by the President's Session, and throughout the week by scientific sessions (three sections being conducted simultaneously).

The largest and most instructive group of exhibits was shown which has ever been presented at an annual meeting. In fact,



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many hours could have been spent with profit among them.

The proposed sweeping changes in the constitution were postponed for at least one year, but the method of amending the constitution was clarified and simplified, and three trustees were added to the group, which has in the past consisted of six, making a new total of nine. The following officers were elected for the coming year: President-elect, Mr. Robert E. Neff; First Vice President, Mr. E. I. Erickson; Second Vice President, Miss K. M. Prindiville; Third Vice President, Mr. E. E. Slack; Trustees newly elected, Dr. W. S. Rankin, Mr. John Hatfield, and Miss Margaret A. Rogers; Trustees re-elected, Monsignor M. F. Griffin and Dr. G. Harvey Agnew. Mr. Asa S. Bacon was re-elected Treasurer.

The speaker at the Annual Banquet was the Honorable Newton D. Baker. In his address he related some very interesting hospital experiences which he had while serving as Secretary of War during the World War.

Dr. Basil C. MacLean, of the Strong Memorial Hospital, Rochester, New York, succeeded Dr. Fred C. Carter, of the Christ Hospital, Cincinnati, to the presidency of the American College of Hospital Administrators. Mr. Howard E. Bishop, of the Robert Packer Hospital, Sayre, Pennsylvania, was elected to the office of President-elect.

The Rev. Clinton F. Smith, of the Grant Hospital, Chicago, was chosen President-elect of the American Protestant Hospital Association.

Some Coloradans who attended the convention were: Mr. W. G. Christie, of Presbyterian Hospital, Denver, President of the Colorado Hospital Association; Dr. Herbert Black, of Parkview Hospital, Pueblo, President-elect of the Colorado Hospital Association; Mr. William S. McNary, University of Colorado School of Medicine and Hospitals; Mr. Robert B. Witham, Children's Hospital; Mr. Frank J. Walter, Saint Luke's Hospital, Denver; Mr. Guy M. Hanner, Beth-El Hospital, Colorado Springs, and Mr. Claud Frazier, Greeley Hospital, Greeley, Colorado.

Several other Coloradans were noted as among those attending the meetings of the roentgenologists, the nurse anesthetists, the physiotherapists, the social service workers, the dietitians, and the record librarians.

The next meeting place of the Annual Convention of the American Hospital Association has not yet been determined.

F. W.

Incubators

In one Denver hospital, after several expensive incubators had been tried without meeting the particular needs of the nursery, an incubator was designed by the superintendent and constructed by the engineer, at a cost of two and one-half dollars. The apparatus is constructed of galvanized iron, and is in the form of a shell which rests on the bassinet. The entire fixture is covered with sheeting. Heat is provided by an electric light globe, with an adjustable housing. Temperature can be maintained to within one degree over an indefinite period. This scheme has worked so successfully that some half dozen of these incubators, or constant temperature chambers, are in use in the nursery.

Fifty Percenters

We have frequently noted the expression of dismay on the face of the doctor who, having succeeded in inducing one of his occasional patients to seek hospital care, is visiting his patient in company with the floor supervisor. One of the members of the profession having, say, half a dozen patients on the floor, appears. The "single patient" doctor and his chart are hastily consigned to a student nurse. The supervisor rushes to sieze an armful of charts and accompany the more fortunate brother practitioner. When this incident was casually mentioned to the superintendents of several hospitals the comments were identical: "Well, what can you do about it? Those fellows pro-

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* "Lobar Pneumonia and Serum Therapy" by Frederick T. Lord and Roderick Heffron, published by The Commonwealth Fund in 1936.



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vide fifty per cent of the hospital's business." One aspires to be a "fifty per center."

Social Security Act, Hospitalization Of Crippled Children

SINCE funds have been made available for the hospitalization of crippled children under the Social Security Act, the State Board of Health and the hospital representatives have been endeavoring to reach some common ground on which a fee basis could be arranged. At a recent meeting of the Colorado Hospital Association trustees' recommendations submitted by the State Board of Health were considered and the following recommendations were submitted to the State Board:

Three dollars per day is proposed as the base rate charge to be made for the care of crippled children accepted for treatment in Colorado hospitals under the Social Security Act. This basic rate includes room and board, general floor nursing, ordinary medicines, dressings, anesthesia by house anesthetist, and operating room services.

Special medicines, serums, biologics, braces, and appliances will be charged extra at the invoice price paid by the hospital. X-rays, casts, physical therapy, hydro-therapy and other special treatments will be charged according to a fee schedule to be determined later.

These recommendations cover a period ending June 30, 1937.

It is understood that the trustees' action does not bind any institution to the proposal submitted by them, but any agreement must be accepted or rejected by each individual hospital.

A letter from the Secretary of the Public Health Division assures the acceptance of these recommendations by the State Board of Health, and further, proposes a meeting with the hospitals which are to participate to discuss methods and procedure.

This action on the part of the Hospital Association and the State Board of Health indicates that the funds provided for the care of crippled children in Colorado will be used to the best advantage.

A discussion of the Social Security Act as it affects hospitals is planned for the Annual meeting of the Hospital Association.

Central Service

CENTRAL Service appears to be rapidly becoming an established feature of the progressive hospital. Yet there are a few difficulties that must still be overcome. Appearing at the unseemly hour of seven in the morning and wishing to change a dressing, one is informed that it cannot be done as Central Service is not open until that hour. Preparing to give an intravenous infusion sometimes necessitates four trips to Central Service by the nurse, before all the necessary equipment is to hand. Wishing to shave a skin area before applying an adhesive plaster dressing, much phoning assured the provision of a razor from Central Service. Eventually two porters appeared carrying the razor. Blades had been forgotten.

It would seem that some form of runner service might be instituted, to avoid the necessity of nurses leaving patient and doctor at frequent intervals, to obtain supplies from a Central Service Station, located in some distant part of the building.

PUBLIC HEALTH NOTES

Plague Infection Discovered in Fleas and Lice Taken from Marmots in Montana and a Marmot in Utah

A report has been received, under date of August 10, 1936, from Surgeon C. R. Eskey, in charge of plague suppressive measures, San Francisco, California, that plague infection had been discovered in fleas and lice taken from ground hogs (marmots) which had been killed in Small Horn Canyon, Montana, about twelve miles southwest of Dillon, Beaverhead County. Following is Surgeon Eskey's report:

Plague has been determined in both fleas and lice taken from seven ground hogs (marmots) shot at the head of Small Horn Canyon, about twelve miles southwest of Dillon, Beaverhead County, Montana, July 25, 1936, by employees of the Rocky Mountain Laboratory. One hundred

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★ *Proc. Soc. Exp. Biol. and Med., 1934, 32, 241-245*
Laryngoscope, Feb. 1935, Vol. XLV, No. 2, 149-154
N. Y. State Jour. Med., June 1935, Vol. 35, No. 11
Arch. Otolaryngology, Mar. 1936, Vol. 23, No. 3, 306-309

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and fifty-three fleas and twenty-six lice were collected in separate bottles and inoculated into guinea pigs, which died in six and three days, respectively. Secondary inoculations and cultures gave typical plague reactions.

These findings are of interest because they provide the first direct evidence that plague exists among marmots in America and demonstrate that the infection may be recovered from lice as well as fleas taken from these rodents. Fatal epizootics have been noted among marmots in a number of localities in western states, but no infected animal has yet been found.

The foregoing report has been supplemented by later information (dated August 13) received from Surgeon Eskey in which he states that plague has been determined in a sick ground hog (marmot) killed July 31, 1936, in Indian Creek Canyon, fourteen miles northeast of Beaver, Beaver County, Utah. This is believed to be the first plague infected marmot reported in the United States.—Pub. Health Rep. 51, 34: 1059 (Aug. 21), 1936.

Office of Public Health Education Established

The U. S. Public Health Service announces the establishment of the office of public health education, under Assistant Surgeon-General Lewis R. Thompson, chief of the division of scientific research. Its initial activities will embrace the training and instruction of young commissioned officers of the service; special instruction for educators, health officers, and sanitarians from state health departments and from health departments of foreign countries and for other eligible persons; the making of studies of educational methods employed in various health agencies and in other fields of education, with a view to adapting the methods to its own purposes, and to developing new and improved methods; the making of experimental studies in mass adult education, through the use of the radio for the purpose of evaluating various methods of radio education; the filing of permanent records of available material, to be a repository of authoritative information in the field of health education; preparation of a bulletin of current health information, primarily for the personnel of the service. The first copy of this bulletin, entitled THE HEALTH OFFICER, made its appearance with the May issue.—The Diplomate.

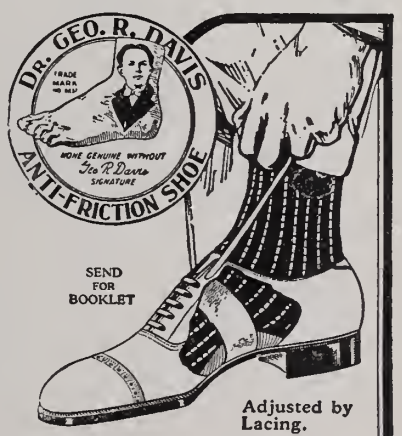


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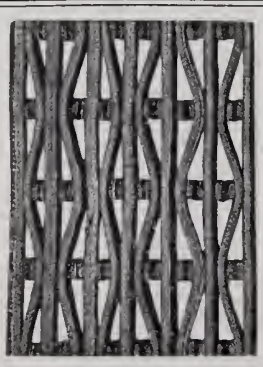
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LIBRARY NOTES

Books Purchased from the Colorado State Medical Fund, October 1, 1936

Abbott, M. C. Atlas of Congenital Cardiac Disease. N. Y., Amer. Heart Assoc., 1936.

Crowe, C. C. Handbook of the Vaccine Treatment of Chronic Rheumatic Diseases. Oxford Univ. Press, Humphrey Milford, 1932.

Dennie, C. C. The Gift of Columbus. Kansas City, Brown-White, 1936.

Heiser, Victor. An American Doctor's Odyssey. N. Y., Norton, 1936.

Mock, H. E., Pemberton, Ralph, and Coulter, J. S. Principles and Practice of Physical Therapy. Hagerstown, W. F. Prior Co., 1936. 3 vols.

Hausmann, Max. Entstehung und Funktion von Gefässystem und Blut auf cellularphysiologischer Grundlage. Basel: Banno Schwabe & Co., 1935.

Evans' Recent Advances in Physiology. Fifth Edition, revised by W. H. Newton, M.D., M.Sc. (Manch.), Senior Lecturer in Physiology, University College, London. With 720 Illustrations. Philadelphia: P. Blakiston's Sons & Co., Inc., 1012 Walnut Street, 1936.

The advances in physiology touch closely the subdivisions of medical science. There is no specialty which is not concerned with pertinent physiological facts.

This volume constitutes a splendid supplement to the usual general textbook in physiology when the student is investigating his particular problem.

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A Text-Book of Physiology, for Medical Students and Physicians. By William H. Howell, Ph.D., M.D., Sc.D., LL.D., Emeritus Professor of Physiology in The Johns Hopkins University, Baltimore. Thirteenth Edition, Thoroughly Revised. 1150 pages with 308 illustrations. Philadelphia and London: W. B. Saunders Company, 1936. Cloth, $7.00 net.

This splendid textbook on physiology has been standard for a generation. The thirteenth edition brings it to date and includes important advances of the past three years in one of the most vital of our fundamental sciences.

A Manual of Pharmacology. By Torald Sollmann, M.D., Professor of Pharmacology and Materia Medica in the School of Medicine of Western Reserve University, Cleveland, Ohio. Fifth Edition, Entirely Reset. 1190 pages with 22 illustrations. Philadelphia and London: W. B. Saunders Company, 1936. Cloth, $7.50 net.

The fifth edition of this complete text and reference book upon prescription writing, therapeutics, and general pharmacology has revised the entire book, particularly the topics wherein there have been important developments since 1932. Though the minutest details are included, those of lesser importance are set in small type, so that the practical value is unimpaired for ready reference by the practitioner.

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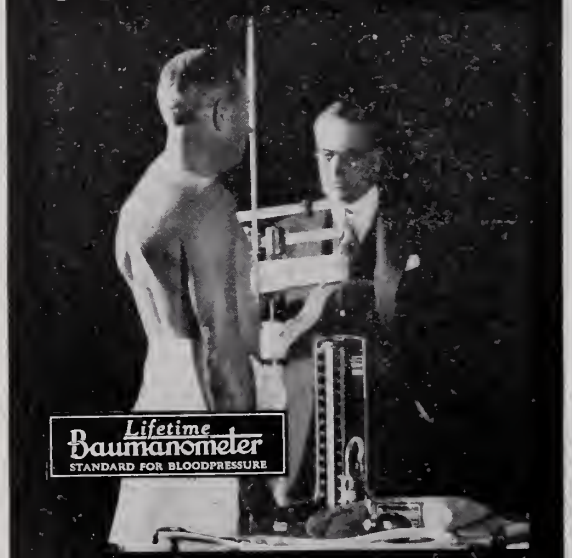
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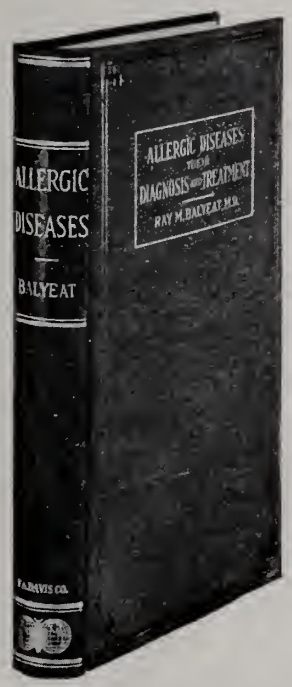
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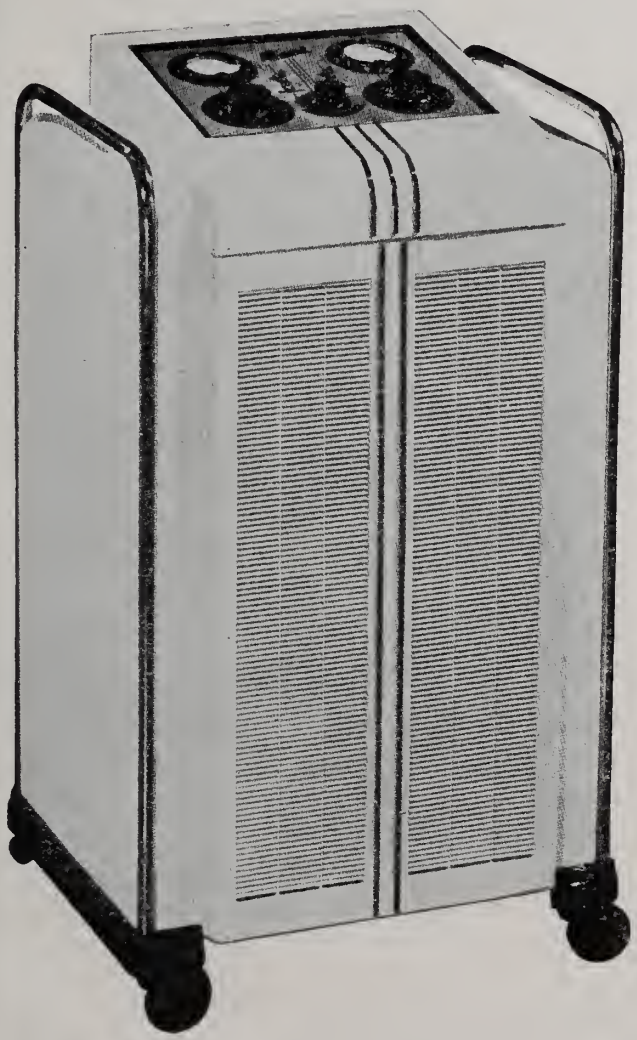
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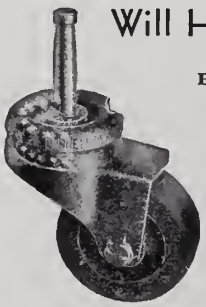
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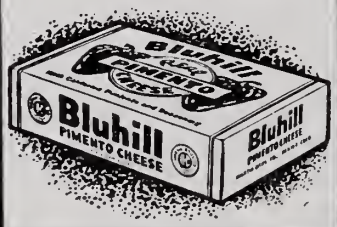
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VITAMIN UNITS AND STANDARDS

● The past five years have brought agreement between biochemists of the various nations as to suitable units and standards of reference for most of the vitamins essential to man. The practice of expressing the vitamin potencies of foods and other biological materials in terms of *International Units* is, therefore, fast becoming universal.

Believing that these units and the standards upon which they are based would be of interest to our readers, they have been tabulated and defined below (1):

Vitamin A

The reference standard is a solution of pure beta-carotene in an inert oil, of such concentration that one gram of solution contains 300 micrograms (0.300 mg.) of beta-carotene. The International Unit, or I.U., of vitamin A is the vitamin A activity of 2 mg. of this standard solution, or 0.6 micrograms of beta-carotene.

Vitamin B1

The reference standard is the concentrate produced from rice polishings, by a specified adsorption method, in the Medical Laboratory of Batavia (Java). The International Unit for vitamin B_1 is the vitamin B_1 activity of 10 mg. of this standard adsorption product.

Vitamin C

The standard of reference for vitamin C is a specified sample of pure levo-cevitamic acid (levo-ascorbic acid). The International Unit for vitamin C is the vitamin C activity of 0.05 mg. of this standard.

Vitamin D

The reference standard for vitamin D is a solution of irradiated ergosterol, prepared under specified conditions at the National Institute for Medical Research (London). The International Unit for vitamin D is the vitamin D activity of 1.0 mg. of this standard solution.

These International Units for expressing vitamin contents have been specified in the most recent Pharmacopoeia of the United States (2) as well as by the Council on Pharmacy and Chemistry (3) and the Council on Foods of the American Medical Association (3), and provision has been made for distribution of the standards in this country (4).

These units have been used to express vitamin potencies in recent studies on canned foods, the results of which further emphasize the fact that these foods rank among the most important sources of the vitamins essential in human nutrition (5), (6), (7).

AMERICAN CAN COMPANY

230 Park Avenue, New York City

(1) 1935. Nutrition Abstracts and Reviews 4, 709.
(2) The Pharmacopoeia of the United States of America, Eleventh Decennial Revision, p. 261.
(3) 1936. Report of the Council, J. Amer. Med. Assoc. 106, 1733.
(4) 1935. J. Assoc. Official Agr. Chem. 18, 610.
(5) 1935. J. Home Econ. 27, 658.
(6) 1936. Food Research 1, 223.
(7) 1935. J. Nutrition 9, 667.

This is the nineteenth in a series of monthly articles, which will summarize, for your convenience, the conclusions about canned foods which authorities in nutritional research have reached. We want to make this series valuable to you, and so we ask your help. Will you tell us on a post card addressed to the American Can Company, New York, N. Y., what phases of canned foods knowledge are of greatest interest to you? Your suggestions will determine the subject matter of future articles.

ACCEPTED AMERICAN MEDICAL ASSN. Council on Foods

The Seal of Acceptance denotes that the statements in this advertisement are acceptable to the Council on Foods of the American Medical Association.



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Prescribe routinely for growing children, pregnant and lactating mothers, and all other patients who require additional Vitamins A and D. Available in soft, tasteless 3-min. capsules in boxes of 25, 50, 100 and 250. Also in 10-cc. and 50-cc. vials with special droppers. ABBOTT LABORATORIES.





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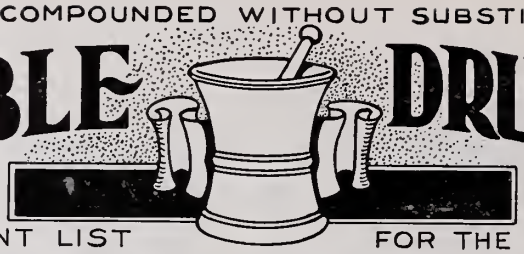
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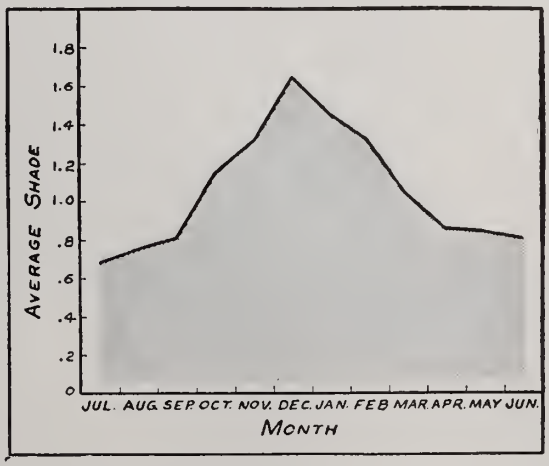
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WEATHER FORECAST—
HEAVY SMOKEFALL

SMOKE exerts a definite influence on the weather at this season by reducing the amount of sunlight. Beginning in September there is a steady rise in atmospheric pollution until in December it becomes double that of midsummer, according to a recent report of a two-year study made by the U. S. Public Health Service in ten of the largest American cities, representing a population of millions. One of the most surprising findings was that there is no decrease in the dust content of the air either during or after a rain.

Winter Sunlight an Unreliable Antiricketic

Atmospheric pollution is but one of many forces militating against the therapeutic effects of ultraviolet rays in winter. Others, to name only a few, are cloudiness, precipitation, and clothing. In winter, moreover, it is often impracticable to give sunbaths to infants during the very time they are most susceptible to rickets—the first six months of life.



Average atmospheric pollution in 10 large American cities, 1931-1933. In many smaller communities, even worse conditions may prevail under any of the following combinations: (1) soft coal, (2) low inland wind velocity, (3) concentrated manufacturing activity, (4) no zoning regulations, (5) no smoke abatement ordinances.

Dependable the Year 'Round
OLEUM PERCOMORPHUM
Price Substantially Reduced, Sept. 1, 1936!

The physician can dispel uncertainty in the treatment of rickets simply by prescribing a few drops of Oleum Percomorphum daily. The product has the advantage of having the same ratio of vitamins A to D as in cod liver oil,* with 100 times the potency. Each gram supplies not less than 60,000 vitamin A units and 8,500 D units (U.S.P.). This maximum vitamin potency in minimum bulk gives Oleum Percomorphum outstanding usefulness for young and premature infants. Constant bioassay and special processing of this antiricketic assure the stated vitamin potency and low percentage of fatty acids. Supplied in 10 and 50 c.c. bottles and 10-drop capsules in boxes of 25 and 100.

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Chicken Pox	12-16 Days	3-14 Days
Diphtheria	2-4 Days	After 12th Day—until cultures negative
Epidemic Meningitis	1st Week	Until cultures negative
Measles	2nd Week	Until 5 days from onset rash
Mumps	3rd Week	Duration of Swelling
Poliomyelitis	3-10 Days	21 Days
Rubella	3rd Week	Duration of catarrh and rash
Scarlet Fever	1st Week	After 21st Day—until cultures negative
Whooping Cough	2nd Week	Until 4 weeks from onset whoop

From American Journal of Public Health—March, 1927

INFECTIOUS FEVERS deplete the child's vitality. It is an exhaustion comparable to fasting. Convalescent children show a low metabolism for several weeks following the disappearance of the fever. The low metabolism is the consequence of generalized cellular damages.

When the infection clears, activity is curbed and rest periods instituted. The child is ready to gain. The problem is to bring about sufficient intake of food. The initial diet consists of small portions of each food prescribed and the amounts are gradually increased.

The high caloric diet is indispensable. It is made possible by reinforcing foods and fluids with Karo. Every article of the diet can be enriched with calories. A tablespoon of Karo provides 60 calories. Karo is relished added to milk, fruit and fruit juices, vegetables and vegetable waters, cereals, breads and desserts. Karo consists of dextrins, maltose and dextrose (with a small percentage of sucrose added for flavor), not readily fermentable, rapidly absorbed and effectively utilized.

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Corn Products Consulting Service for Physicians is available for further clinical information regarding Karo. Please Address: Corn Products Sales Company, Dept SJ12, 17 Battery Place, New York City.



Surgery and pregnancy

place added strain on the diabetic

RESORT to dietary measures alone is sufficient to keep many diabetic patients well-nourished, sugar-free and at work. When this is not practicable, or when infections, surgery, or pregnancy place added strain upon the patient, the use of Insulin is indicated. Furthermore, Insulin enables the patient to enjoy a wider variety of foods. This may aid in combating some of the complications.

Insulin Squibb is an aqueous solution of the active anti-diabetic principle obtained from pancreas. It is accurately assayed, uniformly potent, carefully purified, highly stable and remarkably free of pigmentary impurities and proteinous reaction-producing substances. Insulin Squibb of the usual strengths is supplied in 5-cc. and 10-cc. vials.

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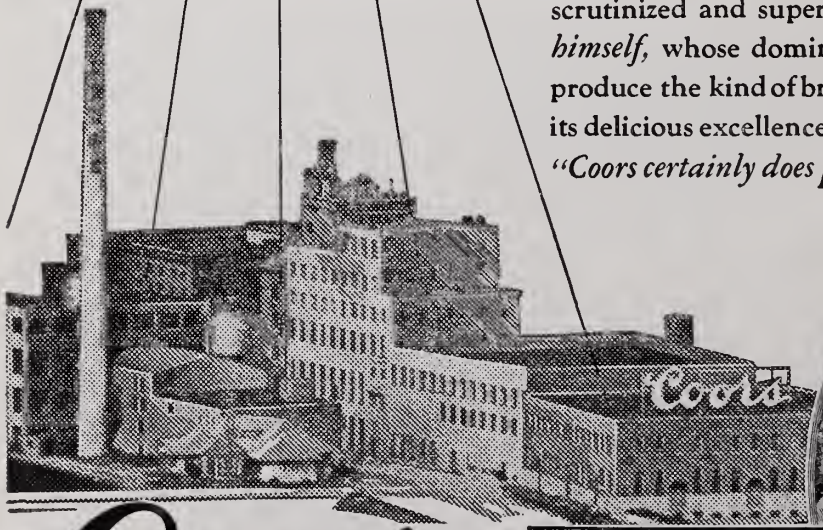


In any company . . . in every crowd . . . where beer is mentioned or discussed . . . someone invariably pipes up and says: "The Coors people certainly do turn out a mighty fine beer"... And why?... Here's the reason:

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No beer in this broad land is brewed under closer supervision of the chief executive of the company than is Coors.

Every step of the process is checked, scrutinized and supervised by the *Chief himself,* whose dominant ambition is to produce the kind of brew which, through its delicious excellence, will make you say *"Coors certainly does put out good beer."*





Coors
GOLDEN

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Brewed with Pure Rocky Mountain Spring Water

A Product of ADOLPH COORS COMPANY, GOLDEN, COLORADO

One of a series of advertisements prepared and published by PARKE, DAVIS & CO. in behalf of the medical profession. This "See Your Doctor" campaign is running in a number of leading magazines.



The doctor looks at Santa Claus

WHAT'S THIS? Our old friend Santa in trouble?

Not exactly. He's just as bouncy and jolly as ever. His smile would light up a coal mine. But he is getting just a wee bit worried about his waistline. And well he might.

For obesity is dangerous. Superfluous weight makes every movement a greater tax on strength than that movement would be if weight were normal. It places an added burden on the fat person, a burden he carries wherever he goes, whenever he moves. And most of all, it places a serious and unfair strain on the heart by making it do extra work. *It has been estimated that putting on twenty pounds of fat adds about twelve miles of blood vessels and capillaries through which blood must be pumped.* And the heart, of course, must do the pumping.

You've often heard people say, "I must go on a diet". . . or . . ."I must go in for some strenuous exercise and work this fat off." But either course may be dangerous. Unwise dieting frequently substitutes, for the evil of obesity, the evil of undernourishment. Strenuous exercise obviously adds to the burden on an already overburdened heart.

There is only one sane thing for any overweight person to do. That is to see his doctor. Your doctor can determine whether obesity is caused by some fundamental physical disorder—such as glandular derangements—or whether it is the result of unwise eating combined with insufficient exercise.

Diet is a form of treatment, and it should *never* be prescribed by anyone but a physician. The doctor's knowledge is necessary in determining what foods, and how much, may be eaten —what diet will be safe and pleasant, yet effective, in removing unneeded, unsightly fat.

If *you* are overweight, or in doubt about what weight you should maintain, do something about it. But don't let well-meaning friends, or the fellow you met while on vacation, prescribe for you. See your doctor.

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Parke, Davis & Company

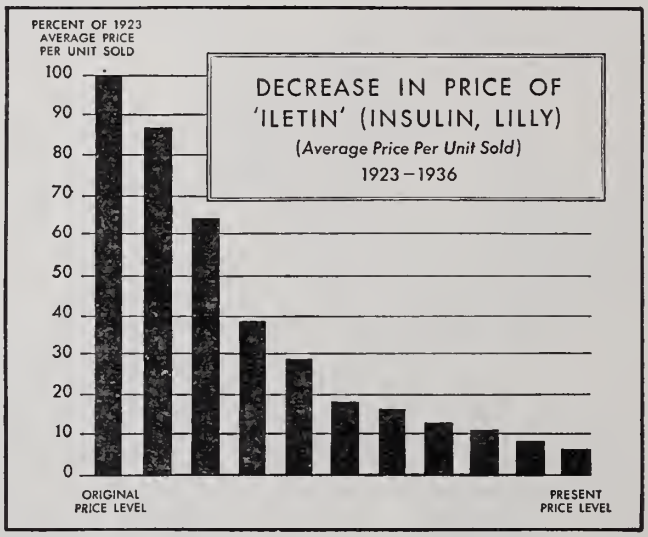
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It has been the Lilly Policy to share with patrons the economies and savings in manufacturing resulting from research and large-scale production. As a result of this policy 'Iletin' (Insulin, Lilly) is now available at about one-twelfth of its introductory price.

ILETIN (INSULIN, LILLY)

The First Insulin Commercially Available in the United States

Time-Tried · Pure · Stable · Uniform

Prompt Attention Given to Professional Inquiries

PRINCIPAL OFFICES AND LABORATORIES, INDIANAPOLIS, INDIANA, U. S. A.

Colorado Medicine DECEMBER 1936

Editorial

The Use of the New Insulin

THIS Journal is pleased to call special attention to the article on protamine insulinate, by Doctors Waring, Longwell and Ravin, which appeared in our November issue. Anyone interested in the subject will find it worthy of careful reading. The authors not only offer an excellent review of the literature and a clear discussion of the chemical nature of both insulin and protamine but also give results of their animal experimentations and clinical observations. Their findings are in essential agreement with other workers. These findings, so well confirmed, should form the basis for the clinical application of this new therapeutic agent.

Protamine insulinate will surely be available to all physicians within the near future. This availability, together with the almost unanimous opinion that it is superior to old insulin, makes its wide use at an early date almost a certainty. Inasmuch as it cannot be substituted unit for unit and dose for dose in place of insulin, some danger attends its early use.* Some caution, therefore, may be fitting and timely.

It must be remembered that the only material clinical difference between the new and old product is the rate of absorption from the site of injection giving rise to a difference in the rate of insulin action. Many methods have been suggested for the use of the new compound. The time of and interval between injections, the size of the single dose, the sensitivity of the patient to insulin and the combination of new and old insulin are all factors of consequence. For the sake of simplicity let us take as an example, a patient 20 years of age on an adequate diet, weighed or carefully estimated, whose urine remains sugar free or nearly sugar free on 25-10-10 units of insulin a day. The total dosage of old insulin in this case is 45 units. To switch to the new insulinate the entire dose should be given before breakfast. It would be wise to reduce the total dosage from 45 to 40 units. Then have the patient test the urine before each meal and at bed time, and make a chart record of each finding. Make no changes in the dosage for three days. Then if the test before breakfast continues to show sugar, increase the single dose to 45 units for another three-day period. If there is still morning sugar, continue to raise this before-breakfast dose by 5 units every three days until morning sugar is absent. Let us assume that in this case the before-breakfast urine is sugar free with 40 units of protamine. Then if there is still some sugar in the specimen before lunch, on the following day before breakfast inject 5 units of old insulin in one site followed immediately by the 40 units of protamine insulinate in another. This morning dose of old insulin should be increased very gradually till the before-lunch urine is sugar free. Of course the availability of the physician is assumed during the time the patient is making this change.

The above is a safe procedure and, in case of well trained and well controlled diabetic patients, the transfer may be made from the old to the new insulin without hospitalization. It is usually wise to leave a well established diet alone. Sometimes borrowing a glass of milk or fruit juice from the breakfast and giving it at bed time makes a more even carbohydrate intake and ren-

*Eli Lilly and Company, pioneers in the manufacture and standardization of insulin and now pioneers in the manufacture and standardization of protamine insulinate, enclose the following warning: "Protamine & Iletin (Insulin, Lilly) is not interchangeable with regular Iletin (Insulin, Lilly). Consult your physician for full instructions before using."

ders a "5 a. m." hypoglycemic reaction less likely. The use of protamine insulinate may probably lead to the construction of dietaries made up of more food elements from which sugar "trickles" rather than "flows" into the blood. As the new insulin effect is less "explosive" in action, so the available sugar of the diet is best utilized if secured from food stuffs in which there is delay in digestion or absorption.

C. F. K.

New Home of Our A.M.A.

PHYSICIANS active in medical organization had realized for many years that the structure which housed our American Medical Association headquarters was neither adequate nor fully in keeping with the importance of that great organization. Gradual expansion and patching of an originally small building at 535 North Dearborn Street, Chicago, had failed to keep up with demands made upon headquarters for additional work and service. Additional land was purchased, and, for a time, serious consideration was given to obtaining an entirely new location. But after all, there's no place like home, especially when that home embraces the history of an institution.

In the fall of 1935 contracts were let for an entire reconstruction of the present building, for adding two more complete floors and an extra "pent-house," the latter providing an excellent auditorium seating 320, large enough for most of the "small" conferences and committee meetings which convene in Chicago almost weekly. Outwardly, the building has been completely recovered, and is finished in light gray limestone and black granite. Interiors have been completely done over, executive offices and foyers paneled with natural finish wood, offices arranged for greater efficiency and comfort of the hundreds of employees, the best of modern electric fixtures installed, the entire ensemble bespeaking the dignity proper for our parent organization.

Officers and employees are rightly proud of the re-built home and are delighted to conduct visiting members on tours of inspection. Such tours have always been instructive, and there is no other way to gain comprehension of the stupendous activities of our A.M.A. headquarters. When in Chicago, budget a half day for visiting 535 North Dearborn Street. It will afford a new conception of the greatest medical organization in the world and will engender a new pride in its work.

Doctors Misunderstand Cancer Programs

THERE are physicians in Colorado who are still unaware that two separate and distinct programs relating to cancer are being carried on in our state at this time.

These two programs are well coordinated. One, relating to the clinical diagnosis of early malignancy, is the subject upon which cancer symposium teams are talking to the component county and district medical societies. The other is a campaign of medical lectures on cancer to lay groups through all church denominations. This latter campaign is sponsored jointly by the American Society for the Control of Cancer and the Colorado State Board of Health. It is imperative that doctors do not confuse these two relating, but distinct, programs.

The clergymen of the state have been asked by the leaders of their denominations to have medical speakers address their lay groups. The advice of the medical speakers will be to urge the members of their audiences to have proper thorough physical examinations to find not only precancerous and cancerous conditions but other diseases as well. This definitely sends patients to their regular Doctors of Medicine as private cases, to be examined at their regular fees. This campaign should not be confused with that which is being carried on by the Committee on Cancer Education of the State Medical Society and its symposium teams.

It was thought that the doctors of the state would want to do everything possible to encourage these church groups to request medical speakers. However, we have heard from several clergymen that doctors have

stated that it was not necessary for the church to send into the central office of the lay campaign for a medical speaker to address their congregational group, as the local physician could do whatever was necessary. This has interfered with the program that was approved by the State Medical Society's House of Delegates, in which medical speakers are to deliver a specified talk on cancer control, illustrated by a film strip, and approved by the American Society for the Control of Cancer. This film strip ties in closely with a pamphlet that has been printed especially for this Colorado campaign, to be distributed to the audiences attending these medical lectures. Every Doctor of Medicine in the state has received a copy of this pamphlet: "What Everyone Should Know About Cancer," and an explanatory letter from the joint central committee of the American Society for the Control of Cancer and the State Board of Health.

It is hoped that a clearer understanding of these two programs will prevent further interference with the success of each campaign. Any physician desiring to address these lay audiences may become a member of the speaker's bureau by arrangement with the joint central committee or the executive office of the Society.

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Basic Science Legislation

A SENSIBLE interpretation of basic science laws was given to the recent Annual Conference of State Secretaries and Journal Editors in Chicago by J. W. Holloway of the A.M.A. Bureau of Legal Medicine and Legislation. The subject is timely at any time, but particularly in the months just preceding the sessions of state legislatures. The subject is too little understood by physicians generally.

Medical practice acts generally have set excellent standards for the practice of medicine, but other groups of healers with deficient training have succeeded in most states in establishing their own boards of examiners. Too frequently these extra boards have set standards so low that practically all applicants pass. Basic science laws have been the modern development that successfully combats this evil, by setting for all time uniform and impartial standards of basic scientific knowledge for all who would aspire to practice the healing arts. It is conceded that such basic sciences are Anatomy, Physiology, Chemistry, Bacteriology, and Pathology.

Basic science laws, in Holloway's opinion, should be drawn to have low scholastic requirements—high school graduation or its equivalent being preferred—to avoid being unfair to those whom the medical profession has termed cultists. The examination in basic sciences, by a basic science board, must examine only as to basic knowledge of these sciences, and, to be fair to adherents of all schools of healing, must strictly avoid requiring knowledge of the application of those sciences to the treatment of disease. Examination in the application of such sciences must be left to the professional boards whose powers include the granting of actual licenses to practice. Basic science laws should avoid the temptation of some sponsors to include granting exemption from examination to graduates of any schools, even be they the finest medical and scientific schools of the world.

An applicant who successfully passes a basic science examination and shows proper moral character, is not thereby licensed to practice any kind of healing. Rather he is granted a certificate of proficiency in the basic sciences, which then entitles him to appear for examination before the professional board of his choosing, be it medical, osteopathic, chiropractic, naturopathic, or another of the newer schools now growing in some states. These boards need not reexamine the applicant in basic knowledge of the sciences named.

Against an impartially drawn basic science law there can be no valid argument of discrimination in favor of any school of healing. It raises standards for the future in the state where it is adopted. It adds strength to the state's police power in the prosecution of unlicensed practitioners of

any branch of healing. It applies only to licenses granted subsequent to its passage, and therefore there can be no complaint on the part of any person licensed to practice in the state already. There is no attempt to ban any type of healing, but all types and schools of healing are made safer for the future through the certainty of this fundamental knowledge.

The general public will soon demand basic science legislation in every state. As more and more states adopt it, the remaining states are in danger of becoming dumping grounds for half-trained healers who quickly choose a location where there is no basic science hurdle to jump before obtaining a professional license. Should the medical profession wait for the public to demand this protective law in Colorado, or should the profession assume leadership, sponsor this law vigorously, see it drawn impartially, see it through? We think the answer is obvious.

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In Behalf of Public Health

WE will soon face another session of the State Legislature and the usual fight against legislation opposed to the best interests of public health. Unfortunately a few legislators whose political aspirations exceed their good judgment have been elected. Consequently, the usual fight will be on in February. We are preaching prophylaxis along scientific lines, but are not practicing it toward legislation.

The majority of physicians continue to enjoy a reputation for honesty and good judgment. This constitutes an important force applicable to the proper guidance of laymen in matters relating to public health. It is more useful than the reasons through which the doctor has reached his conclusions. However, the most effective means of applying this force is through interviews. The legislator will listen to the personal suggestions of his physician rather than many long arguments. Our members in every county must use this influence to its best advantage.

In the August issue of this journal, an editorial urged "vigilance toward legislation." Now that we know the identity of the U. S. Congressmen, Senators and members of the State Legislature, we can work before they convene. This foundation will augment our later efforts. The Public Policy Committee urges members of the Colorado State Medical Society to give special attention to its findings and to follow its recommendations for activity in each county.

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Directory Corrections

HAVE you moved? Have you changed your telephone number? Was your own listing correct in the July, 1936, Directory of Members of the State Society?

The January, 1937, issue of the semi-annual Directory of Members is now in preparation, for publication as a supplement to the January, 1937, issue of Colorado Medicine. Any corrections, additions, or deletions should be in the Executive Office of the Society by December 20 to be sure of inclusion in the new Directory. Remind the Secretary of your component society to be sure to report all new members, transfers, and changes of address. Make note of your own corrections, and send them in.

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A Vacation Suggestion

WHAT about a vacation in Denver and vicinity next July—for you, and for your medical friends in nearby states? On the 19th of that month the Rocky Mountain Medical Conference will convene at the Cosmopolitan Hotel in Denver for a three-day session. This will be the long-hoped-for joint meeting of the Colorado, New Mexico, Utah, and Wyoming Societies, at which members of all other state societies, for that matter, will be welcome. Write to your friends and tell them about it.

From reports of the program committee, it is already certain that speakers of international repute, in considerable numbers, will offer a scientific treat such as physicians of this region have never known.

SURGICAL SHOCK FROM BURNS, FREEZING, AND SIMILAR TRAUMATIC AGENTS*

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CHICAGO

The various signs and symptoms that combined give the picture of surgical or traumatic shock are too well known to be elaborated at this time. It is of interest, however, to consider the enormous amount of speculation there has been concerning the causes of shock. The picture is striking of a severely injured patient with full consciousness and often no external hemorrhage gradually sinking into a collapsed state with cold, clammy skin, fast thready pulse and greatly lowered blood pressure and later coma and ultimately death intervening. Such a syndrome has naturally piqued the interest of numerous clinicians and some of them have carried this interest into the experimental laboratory. Their observations led to two main standard theories as to the origin of shock. The nervous theory embraced nervous trauma, vasomotor collapse, noci-association and other concepts. The toxic theory involved the supposition that traumatized tissue gave rise to toxic products. But since shock could be produced experimentally in the absence of nervous connections to the traumatized region on the one hand and, on the other, extracts of traumatized tissue could be injected into other animals without ill effects, both of these theories remained unproved.

Recently a third theory has come to the fore, chiefly as a result of the simultaneous work of Blalock[1] and Phemister[2]. This theory involved the demonstration that in many cases of shock there is hidden extravasation of blood in the traumatized tissues in amounts hitherto unrealized. Experimentally these authors showed that if one hind limb of an anesthetized animal is severely traumatized, and then by weighing the hind-quarter sections the weight of the traumatized and opposite normal limb is compared, the swelling due to hemorrhage into the traumatized limb may be large enough to correspond to a loss of three liters of blood in an average sized man. The writer has made measurements of limbs and other injured regions of patients admitted in shock on the traumatic service of Billings Hospital. These injured regions were often swollen very soon after the injury, ecchymoses being visible, sometimes blood being aspirated from large hematomas and the amount of swelling was in many instances far greater than would have been realized had not direct measurements been made.

The advocates of the local blood loss theory of shock do not maintain that this is the only factor. The loss of large amounts of blood into injured areas is, however, just as serious as the more evident external hemorrhage. From the standpoint of therapy this concept is important because it is easier to treat a patient who is suffering from loss of blood than one who is affected by some vague ailment such as noci-association. Blood transfusion has then a more definite place in the treatment of shock. If blood is not immediately available its place may be temporarily taken by blood substitutes such as intravenous saline, Ringer's solution or glucose. If blood has been lost, however, blood should be restored and our experience at the Billings Hospital has borne out this fact in the treatment of shock cases.

Work done by various workers has shown that a local blood or blood plasma loss may explain collapse of blood pressure in other shock-like conditions such as pulmonary edema, intestinal trauma, mesenteric thrombosis, burns and freezing. All of these conditions represent injuries due to trauma whether that trauma be thermal, chemical, or mechanical. It is chiefly with the effects of thermal trauma, both as regards burns and freezing that the present paper has to deal.

*From the Douglas Smith Foundation and the Department of Surgery, the University of Chicago. Delivered at the Sixty-sixth Annual Session of the Colorado State Medical Society, September 12, 1936, at Glenwood Springs.

Burns

Davidson[3] originally introduced the tannic acid treatment in the belief that tannic acid would precipitate toxic proteins formed in the burned tissues and prevent their absorption. Some more recent work especially by Underhill[4], Blalock[5], and the writer[6] indicated that there might not be any burn toxin acting at all but that death in burns might be due to loss of blood plasma from the blood stream in enormous amounts. The extent of this plasma loss may equal 60 per cent of the plasma normally present in the circulating blood stream. Not only is this fluid lost into the burned tissues, but it leaks out from the weeping burned surface. All of us who have used the tannic acid treatment have noted a white precipitate formed when the tannic acid strikes such a weeping surface. This white precipitate, not unlike that formed when urine is tested for albumin, serves as a qualitative test for protein in a burn exudate. In several of our cases a quantitative test for protein in the blister fluid showed that it is present in the same concentration as in blood plasma. It stands to reason that the loss of this plasma-like fluid either into the burned tissues or from the burned skin is of much more serious consequence than the loss of a mere watery transudate. As an example in kind, it is obvious to all of us that while one can urinate two to three liters a day, the loss of two to three liters of blood is of quite serious import.

Whether one ascribes to the toxic or the fluid-loss theory of causation of secondary shock in burns, two facts stand out: First, that secondary shock is one of the chief causes of death from burns, and second, that tannic acid seems to be effective in combating such shock when present. It matters little whether the tannic acid acts by precipitating toxins or by sealing off the capillaries and preventing fluid loss, the important thing is that to the best of our knowledge at the present time, tannic acid combats shock and lowers the death rate in burns.

Before the introduction of tannic acid by Davidson[3] in 1925 burns were treated with a variety of occlusive dressings, paraffine, cod liver oil, carron oil, sodium bicarbonate, picric acid, saline dressings, horse serum, cresol and Dakin's solution. Since 1925 a number of protein precipitant methods have been evolved, most of which depend on tannic acid for their action. These are briefly outlined in Table I.

TABLE I. PROTEIN PRECIPITANT METHODS OF BURN TREATMENT

A. Tannic Acid Preparations—
1. Tea (Chinese, 5000 B.C.).
2. Ink treatment (Jews and Filipinos. Older inks contained considerable tannic and gallic acids, modern inks sometimes are chiefly coal tar products.)
3. 2.5 per cent solution (Davidson, 1925).
4. 5 per cent solution (Used mostly in U.S.A. at present).
5. 20 per cent solution (Used in England, Wilson, 1928).
6. Tannic acid baths (Wells, 1933).
7. Tannic acid buffered with sodium bicarbonate (Seeger, 1932).
8. Cutch extract (60 per cent tannin).
9. Tannic acid plus silver nitrate (produces eschar more rapidly than tannic acid alone, Bettman, 1935).
10. Tannic acid jelly.

B. Tannic Acid Plus Antiseptic Base—
1. Acriflavine, 1/1000 (Wilson, 1934).
2. Dettol, 20 per cent (Clark and Cruickshank, 1933).
3. Bichloride of mercury (1/2000) (Mitchiner, 1933).

C. Gentian Violet, 1 per cent (said to combine antiseptic properties especially against streptococci with the production of a more pliable eschar than tannic acid, Aldrich and Firor, 1933).

D. Ferric Chloride, 5 per cent (Eschar more rapidly formed than by tannic acid and more pliable, Coan, 1935).

As Seeger[7] has pointed out the ideal site for the use of tannic acid is on large areas of skin on the trunk and thighs. The spray should be replaced by a water-soluble tannic acid jelly in burns about the face and eyes. Care should be taken in burns that completely encircle the lower leg and forearm and particularly the fingers to avoid constriction from a firm encircling band produced by the eschar. Butesine picrate ointment may be preferable on these areas. Tannic acid should not be used after too long an interval has elapsed from the time of burning.

It must not be lost sight of at this point, however, that in severe cases shock is often present when the patient is first seen. Tannic acid merely helps prevent to some extent at least further loss of fluid and to no degree restores what is already lost. Other general

methods of shock treatment such as morphine, heat, fluids and most important of all, blood transfusion are to be applied as soon as the patient is seen.

Blood Concentration in Severe Burns: An oft observed clinical fact that has had repeated laboratory verification is the presence of marked blood concentration in extensive burns. Tappeiner[8] in 1881 was the first to report this finding. One of his patients had a red count of nine million following a severe burn. Locke[9] in 1902 reported four cases of burns with a red count of nine million or more. Underhill[4] in 1923 reported hemoglobin percentages as high as 209. McClure and Allen[10] at the Henry Ford Hospital state that "a blood concentration of 125 per cent is indicative of a dangerous condition and that one of 140 per cent of a condition which is not for long compatible with life." The presence of blood concentration is often a better gauge of a severely burned patient's condition than is the blood pressure. The writer has shown experimentally[6] that the blood concentration is proportionate to the plasma leakage, but that the blood pressure may remain compensated until near the end, only to collapse suddenly just before death. Any severely burned patient should have careful hemoglobin and red count determinations during at least the first forty-eight hours following the burn.

Freezing

Clinical cases of freezing differ markedly from burns in several very important respects. A patient may be burned over a certain portion of the body surface without his general body environment and temperature being affected to any marked degree. On the other hand, freezing is induced slowly and it is hard to conceive of how one could freeze a large portion of the body without being generally chilled. Minor frostbites of fingers, ears, the nose, and even the hands may occur while the body as a whole does not suffer, but to freeze a larger region there is almost invariably an associated depression of general body temperature. Furthermore, while burn cases usually occur in civilized centers where medical attention is at hand, freezing most often occurs in arctic or isolated regions.

The writer began a study of freezing with two purposes in mind. First, to test the time honored and possibly empiric practice of gradual thawing frozen extremities; and second, to see if in freezing as in burns there is a shock-like condition with lowered blood pressure, and if so, to determine if its mode of production might not be the same.

Possible Dangers of Rapid Thawing: The universal practice of gradually thawing a frozen member as by the application of snow has not been thoroughly tested experimentally. Maximow[11] states that in plant cells it is the freezing and not the rapid thawing that causes the harm. Nägelsbach[12] states, however, that he finds neither clinical nor experimental support for the practice of gradual thawing and that during the World War, the surgeons who adopted the practice of heating frozen limbs as rapidly as possible had at least no poorer results than the others.

Experiments: Both hind limbs of thoroughly anesthetized dogs were frozen solid by the application of solid carbon dioxide. Then one limb was placed in water at 42° C. and the other in water at 12° C. and after thawing, no difference found in the subsequent behavior of the limbs over a period of eighteen hours.

Both ears of thoroughly anesthetized rabbits were similarly frozen. The amount of freezing was enough so that when thawing was done at room temperature about one-third of the ears would become gangrenous. In a series of eight rabbits in which one ear was thawed at 38° C. and the other at 2° C. over a period of ten minutes and the ears observed over a period of several weeks, the amount of swelling and subsequent gangrene was essentially similar on the two sides. If anything, the ears that were thawed in ice water showed more gangrene.

Shock and Plasma Loss in Freezing: Solid carbon dioxide was applied to about

one-fourth of the total body surface on one side of ten completely anesthetized dogs and left in place for about an hour, at the end of which time the underlying tissues were deeply frozen. Frequent blood pressure, hemoglobin and rectal temperature readings were obtained. In all instances the blood pressure fell markedly before death and there was a marked blood concentration. In one experiment[13] the last hemoglobin reading was 168. At the close of the experiments the dead animals were carefully bisected by the author's method[8] and a comparison made of the weights of the frozen and unfrozen sides. The average difference amounted to about 34 per cent of the total blood volume of the animals. Incision into the tissues that had been frozen revealed considerable plasma-like fluid, as verified by chemical analysis. It was concluded, therefore, that in these experiments the amount of plasma leakage was sufficient to account for part at least of the resultant shock.

Patients with frozen ears were observed frequently and in all instances after thawing a marked swelling was noted. Only one patient with extensive freezing injury was observed in this study. This patient*, a woman, aged 43, tried to commit suicide by lying in the snow a night when the temperature was —22° F. When found she was not unconscious, but both legs were frozen stiff to just below the knees and when her stockings were removed they came off like wallpaper off a plastered wall. She received heat generally and cold compresses to the local lesions. The legs thawed out, but the toes of both feet and the sole of the left foot remained very cyanotic. Later gangrene remained in the toes of the left foot. One of the chief items of interest with regard to this patient was the extensive swelling and blistering of the frozen legs. This is shown to some extent in Fig. 1 which was taken after the largest blister had broken. The blister fluid was essentially similar to blood plasma on chemical analysis. Although the plasma loss in this case was not sufficient to produce shock, it indicates what might happen with a more extensive loss from freezing of a larger area. For comparison, pictures of swelling of extremities due to burns and mechanical trauma are shown in Figs 2 and 3.

General Changes in Body Temperature in Local Freezing: In the animal experiments previously described several very low rectal temperatures were recorded. In one dog a rectal temperature of 25.7° C. (78° F.) was noted. After removal of the dry ice, the temperature rose gradually to 33.7° C. (92° F.) at the time of death sixteen hours later. Reincke[14] in 1875 reported a very interesting series from Hamburg of seventeen drunken men exposed to extreme cold while intoxicated. On admission to the



Fig. 1. Blisters and swelling of legs existing thirty-six hours after freezing. Both legs are swollen but only the blisters on the left side are well visualized.



Fig. 2. Blisters and swelling of right hand following a second degree burn. The opposite normal hand is shown for comparison.

*I am indebted to Dr. A. J. Rissinger for permission to report this case.



Fig. 3. Blisters and swelling of right hand existing eighteen hours after mechanical trauma. This patient caught the hand and forearm under a folding sofa and was not released for five hours. These three figures demonstrate the similarity of the action of thermal (both hot and cold) and mechanical trauma. Chemical analysis of the blister fluid in all three instances showed it to be similar to blood plasma.

hospital all had markedly lowered rectal temperatures. Twelve of them did not fall below 30° C. (86° F.) and recovered. The other five had temperatures that went below that point, two of whom recovered. One patient had a temperature of 28.4° C., eight hours before death. Another had a temperature of 27° C. (80° F.) with death thirteen hours later. The prize case in Reincke's series, however, was that of a 34-year-old laborer who was admitted with a temperature of 24° C. (75.2° F.). Four hours later the temperature was only 27.4° C., ten hours later only 32.6° C., twenty-three hours later 37.8° C. and the day following he was discharged completely well.

It seems, therefore, that the effects of lowering of body temperature are to be reckoned with in cases of freezing. Plasma leakage may be a factor, but it is not as an important item as in burns.

Light, Electricity, and Other Traumatic Agents

Sunburn can occasionally be so severe as to cause death, presumably from shock. Extensive blistering over a large part of the body surface may be a morbid factor in this condition. Chemical burns may be similar to thermal injuries. Electrical burns produce shock in many instances by direct trauma to the central nervous system or by leading to ventricular fibrillation. Localized electrical burns produce deep tissue destruction. This comes on more rapidly than do roentgen ray burns. In general, however, the effects of light, electricity, roentgen rays, etc., do not produce the type of surgical shock produced by burns. The element of plasma loss is an even less important factor than in freezing.

Comment

Correlated laboratory experiments and clinical observations indicate that unrecognized blood loss is an important factor in traumatic shock. In severe burns shock is usually associated with a leakage of blood plasma-like fluid into the burned tissues and from the weeping burned surface. Tannic acid may be of value in decreasing this loss. Experiments indicate that leakage of plasma-like fluid in amounts hitherto unrealized is present in other conditions of which freezing is an example in kind. In the treatment of freezing the effects of rapid thawing and low general body temperature are to be considered as well as plasma loss. Actinic, chemical, electrical and roentgen ray burns because of the nature of their production seldom produce a type of shock similar to thermal burns although they could theoretically do so. It is to be remembered that the injury produced by all these external agents may results in a general condition of shock as well as the evident local trauma. The treatment of shock is often as important as that of the local lesion and is essentially similar in all instances. Since the fluid that is lost in these conditions is plasma rather than whole blood, the ideal therapy might be plasma infusion rather than whole blood transfusion. The writer has used plasma experimentally, but has not tried it clinically.

Conclusions

1. A shock-like condition is present following burns, freezing, and other similar types of trauma. The loss of plasma-like fluid into the injured tissues is a factor in the production of this shock. The treatment of the shock when present is of as much importance as that of the local condition.

This treatment should especially emphasize restoration of the circulating blood volume by blood transfusion.

2. Low body temperatures following freezing are mentioned (78° F.).

3. Experiments to test the benefits of gradual warming up frozen extremities as opposed to rapid thawing showed no advantage to either method.

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THE ESSENTIALS OF ADEQUATE TESTING OF HEARING*

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All cases of hardness of hearing are due to lesions in the conductive apparatus of the ear, or in the perceptive apparatus, or both. The conductive apparatus is composed of the auricle, the external auditory canal, the tympanic membranes, the ossicles, the middle ear space, and the Eustachian tube. Lesions in any of these structures impair the function of the conductive apparatus and produce a hardness of hearing which will be referred to as "conduction deafness." The cochlea, the auditory nerve, the intracranial pathways and the center for hearing in the brain comprise the perceptive apparatus, and lesions in these structures produce a hardness of hearing which we shall call "perception deafness." It is characteristic of "conduction deafness" that there is a greater loss of ability to hear low tones than high tones because low tones are heard well only when amplified by an efficient conductive apparatus; tinnitus associated with "conduction deafness" is usually low pitched. In "perception deafness" the greater loss of hearing is for high pitched tones and any associated tinnitus is usually high pitched.

The purpose of hearing tests is to determine the amount of hearing lost in a given case and to classify it as "conductive deafness," "perception deafness" or a combination of the two. When we have accomplished this, the prognosis becomes clear and the treatment rather definite.

The most important single hearing test is the test with the conversational voice. That this is so is obvious, for it matters little to the average person whether he can hear the musical note of a tuning fork or distinguish the delicate tone shadings of a symphony,

*Condensed from paper presented at the Fourteenth Annual Summer Graduate Course in Oto-Laryngology given under the auspices of the Colorado Otolaryngological Society. This paper describes simple tests whereby the general practitioner may advise his patient whether his type of deafness may be benefited by special treatment or improved by mechanical hearing aids.

providing he can carry on social intercourse with his fellow men by means of the spoken voice.

The information that can be derived by merely talking to a person is quite revealing. If he watches us intently, cups his hand behind his ear, and understands only the shouted word, we can be certain he has some defect in the perceptive apparatus (which may or may not be combined with a conductive apparatus lesion) for a pure conductive apparatus lesion cannot produce a really marked loss in hearing. If he speaks very loudly he is apt to have a perceptive apparatus involvement which makes his own voice sound softer to him than it really is, and causes him to raise his voice to what he thinks is the normal volume. If he speaks very quietly he is apt to suffer from conductive apparatus difficulty which makes his own voice sound louder to him than it really is and causes him to modulate it. If he is not very hard of hearing the trouble may be in either the conductive or the perceptive apparatus.

Now that our conversation with the patient has given an indication of the type of hearing difficulty present, we must try to determine quantitatively the amount of hearing lost. Here we make use of the spoken voice again, but since a much larger room than the physician has at his disposal would be necessary to determine the greatest distance at which the conversational voice can be heard, use is made of the whispered voice instead.

The patient stands at the greatest distance from the physician that the room will allow. He must stand away from the walls, and the ear to be tested must be turned towards the examiner. The other ear canal must be tightly shut by the finger. The patient must not be allowed to watch the physician. In order that the volume of the examiner's voice should be constant throughout these tests, only the residual air in the lungs is used in speaking the whispered word.

And now we see that the use of the voice is the most important single hearing test, for with it we can tell not only how hard of hearing the patient is, but in a good many cases we can also tell the type of hearing difficulty he has, whether of the conductive or the perceptive apparatus. In carrying out the whispered voice test we make use of numbers, and since in the English language the numbers six and seven alone are high pitched and all the others are low pitched, it is easy to determine whether the greater loss is for the high pitched or low pitched tones. We gradually approach the patient until he can hear the numbers whispered, and we record the greatest distance at which he hears the low tones and the greatest distance at which he hears the high tones. Should the patient hear the sixes and sevens at a maximum distance of ten feet, for example, and the other numbers at a maximum distance of four feet, the greater loss is for the low pitched tones, and the patient's major pathology is in the conductive apparatus. Should he hear the twos and threes at a greater distance than the sixes and sevens, the greater loss is for high pitched tones and the perceptive apparatus is at fault. If he hears the whispered voice only at the ear or not at all, the perceptive apparatus must be involved, for no pure "conduction deafness" produces such a marked diminution in hearing. We see, therefore, that by use of the voice one can determine roughly the degree of hearing loss and very frequently the type of hearing difficulty present. No other single test reveals as much or is as easy to apply.

And now we make use of the tuning fork tests which are more accurate than the whispered voice test and which verify and amplify the information obtained by the latter.

First the Schwabach Test is performed. This test compares the patient's bone conduction with normal bone conduction. The stem of the vibrating 108 D.V. fork is placed on the vertex and the patient tells when he no longer hears the sound produced. Theoretically, the time during which the patient continues to hear the sound should be measured with a watch and this time interval should be compared with the interval that the average of a group of normal hearing individuals hears this fork when

tested in the same manner. Practically, however, if the examiner knows that his own hearing is normal, he may compare the relative lengths of time that the patient and he hear the fork. If the patient hears the fork longer than the normal ear hears it the result of the test is recorded as an increase in bone conduction. If shorter than normal, it is recorded as a decrease in bone conduction. If normal it is recorded as such. An increase in bone conduction means a lesion in the conductive apparatus. (This increase is only apparent, for experiments in soundproof rooms have shown that there never is an increase, over the normal bone conduction, in persons with "conduction deafness." This apparent increase in bone conduction is due to the fact that the extraneous sounds in the room which the person with "conduction deafness" does not hear cannot mask the sound of the tuning fork as he hears it, whereas since the normal hearing ear hears these sounds, the sound of the tuning fork is partly masked by them.) A decreased bone conduction means a "perception deafness."

The Rinne Test which is done with the 128 D.V. fork separately for each ear is a comparison between the patient's air conduction and bone conduction. Normally, the vibrating fork is held in front of the ear and the time interval during which the sound is heard is measured. When the fork is no longer heard in front of the ear the stem of the fork is placed on the mastoid process and the interval during which the sound is heard is timed. Practically, the test may be done by placing the vibrating fork in front of the ear so the patient can hear it and then the stem of the fork is placed on the mastoid process. The patient is asked which of the two sounds is louder. From experience we know that which ever is louder would also have sounded longer. When air conduction is longer than bone conduction the test is recorded as a positive Rinne. A longer bone than air conduction is recorded as a negative Rinne. A positive Rinne means a normal ear, or an ear which has a "perception deafness," or an ear which has a slight degree of "conduction deafness," enough to have changed the normal ratio of air to bone conduction, from 3:1, to 2:1 or 1.5:1, but not enough to have made bone conduction greater than air conduction. A negative Rinne means "conduction deafness." Bone conduction is longer or louder than air conduction because the conductive apparatus is involved, therefore greatly interfering with the transmission of the sound by air, and at the same time apparently increasing the bone conduction (as described under Schwabach Test). In cases of marked "perception deafness," the sound of the vibrating fork may not be heard at all by air, but is heard slightly when the stem of the fork is held on the mastoid process. This, the so-called "infinite Rinne," is due to complete loss of hearing by the involved ear, but there is some hearing by bone conduction via the other ear, the cranial bones transmitting the vibrations to the opposite cochlea.

The Weber Test is performed by placing the vibrating tuning fork (preferably the 108 D.V.) on the vertex and asking the patient whether the fork is heard louder in one ear than in the other. The sound is lateralized to the poorer ear of the two in cases of "conduction deafness" and to the better ear in cases of "perception deafness." The reason for this is that the poorer ear in a conduction apparatus difficulty has the greater bone conduction, while the better ear in "perception deafness" has the greater bone conduction.

Having completed these three tests and recorded our results, we next test each ear individually through the complete range of hearing, making use of the 32 D.V., 128 D.V., and 2048 D.V. tuning forks and the 4096 D.V. sounding rod (which vibrates much longer than the equivalent fork). These tests are recorded as normal, slightly decreased, moderately decreased, greatly decreased or not heard as compared to the length of time a normal ear would hear these sounds. Here again, instead of comparing the measured time interval that the patient hears the fork and the time interval that the average of a group of normal individuals

hears it when the fork is excited in a similar manner, if the examiner knows that his own hearing is normal he can roughly compare the length of time the patient hears it with the time he hears it. In testing with the higher pitched forks it is necessary that the opposite ear be closed with the finger to prevent the sounds from being heard by the opposite ear. This is not necessary for the lower pitched forks, since their tones do not carry any appreciable distance. A greater loss for the high tones than for the low ones indicates "perception deafness," and for the low tones means "conduction deafness," just as they do in the whispered voice test. Having completed these tests we are now able to make an accurate diagnosis of the type of hearing defect.

If the results of a patient's examination are as follows:

Schwabach—Increased bone conduction
Weber —Lateralized to right ear

	Left Ear	Right Ear
Whisper—	"22" heard at 9 ft.	"22" heard at 6 ft.
	—"67" heard at 14 ft.	"67" heard at 14 ft.
Rinne	—Negative	Negative
32 D.V.	—Great decrease	Not heard
128 D.V.	—Moderate decrease	Great decrease
2048 D.V.	—Slight decrease	Slight decrease
4096 D.V.	—Normal	Normal

it is obvious that he has a "conduction deafness," for the bone conduction is increased, the Weber is lateralized to the poorer ear, the Rinne is negative, and there is a greater loss for the low tones than for the higher ones.

A patient who has a record typified by the following:

Schwabach—Decreased bone conduction
Weber —Lateralized to right ear

	Left Ear	Right Ear
Whisper—	"22" heard at 6 ft.	"22" heard at 9 ft.
	—"67" heard at 2 ft.	"67" heard at 5 ft.
Rinne	—Positive	Positive
32 D.V.	—Slight decrease	Slight decrease
128 D.V.	—Slight decrease	Slight decrease
2048 D.V.	—Moderate decrease	Slight decrease
4096 D.V.	—Moderate decrease	Moderate decrease

is definitely suffering from a "perception deafness," for there is a decrease in the bone conduction, the Weber is lateralized to the better ear, the Rinne is positive, and there is a greater loss for high tones than for low ones. Of course, in this case there is some loss for low tones, the reason being that in cases of "perception deafness" that are at all marked the cochlea is involved throughout and thus affects the entire range of hearing.

The entire testing of hearing takes only a few minutes. The whispered voice test usually at least suggests the diagnosis. With the tuning forks one determines accurately the type of hearing defect present. If one wishes to determine the patient's loss of hearing quantitatively as is done directly with the audiometer it can be done simply. The Bureau of Standards in Washington will determine the "rate of decay" for any fork sent them. If a given fork, excited in a given manner, is heard by the average of a group of normal ears for 90 seconds, and is heard by the ear which is being examined for 70 seconds, the difference between these two, or 20, multiplied by the "rate of decay" (.5 for example), reveals that the patient has a loss of 10 sensation units for the pitch of the particular fork used.

Having labeled the patient's hearing difficulty as "conduction deafness" or "perception deafness," the prognosis and treatment become rather evident. Generally, it may be stated that "conduction deafness" (excluding cases of otosclerosis) will not progress to as marked loss of hearing as "perception deafness," and may be improved in those cases in which the involvement of the conductive apparatus is due to inflammation and not destruction of structures. "Perception deafness" is usually very resistant to treatment.

Nature always hangs out a little flag, which when seen and understood points to the diagnosis.—J. B. DeLee.

Cholecystitis is constantly accompanied by hepatitis, and infection of the gall bladder results from a primary hepatitis.—Annals of Surgery.

An important phase of medicine is the ability to appraise the literature correctly.—Hippocrates.

Were it not for the poverty of the soil in defensive essences, the seeds of disease would never grow.—Leonard Williams.

CASE REPORTS

TRICHINOSIS

A REPORT OF TWELVE CASES OCCURRING IN COLORADO*

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Trichinosis[1] is an acute condition caused by Trichinella Spiralis and is characterized by remittant fever, edema of the face, pain and soreness in the muscles, and emaciation. Anatomically, the larval worms are found in the muscles.

History

Tiedeman was the first to obtain the encysted larvae in 1822. The parasite was first discovered in 1835 by Sir James Paget, and it was named Trichina Spiralis by Richard Owen in that same year. In 1842, Bowditch, in America, discovered the parasite in man, and Joseph Leidy found the parasite in American pork in 1847. Zenker, of Dresden, described his classical case in 1860 and with Leukhart and Virchow established the main facts of the disease.[2] Brown, in 1896, showed that there is an increase in the number of eosinophiles in the blood, an important diagnostic point[3,4]. In 1894, Herrick and Janeway were the first to find the larvae in the circulating blood[5]. Van Cott and Lintz, in 1914, first observed them in the cerebrospinal fluid, in vivo[6].

Etiology

Human infestation is caused by eating meat containing encysted larvae of Trichinella Spiralis. The usual medium of transmission is pork, either poorly cooked or raw. Bear meat in the form of jerky has been reported by Walker[7] as the cause of one outbreak.

Life Cycle of Trichinella Spiralis

Trichinella Spiralis belongs to the Nematodes, or round worms. The species is ovoviviparous. The cycle in man starts with the ingestion of meat containing encysted embryos. The cyst wall serves to protect the worm in its contact with the gastric secretions until the upper end of the small intestines is reached, where the cyst wall becomes dissolved. Here the embryo develops to maturity and copulation occurs. The adult males measure 1.5 mm., and the females are about twice as large (3-4 mm.). Fertilization of the females is believed to have taken place by the third day after ingestion. After fertilization of the females, the males are said to undergo digestion or to be eliminated through the stools. The females burrow their slender anterior ends into the mucosa of the small intestine to deposit their embryos from where they get into the lymph stream. Each female is thought to deposit 1,000 to 1,500 embryos. The process starts on the sixth to seventh day and continues for about six weeks, but the majority of the embryos are extruded during the first two weeks. The embryos pass via the lymphatics into the blood stream and are distributed all over the body. They are microscopic in size, measuring 0.09 mm. in length by 0.006 mm. in diameter, and can readily pass through the capillary bed. The embryos may be found in any organ or tissue of the body, but they only develop and encyst in the striated muscles where they may be found as early as the ninth or tenth day. They settle in or between the fibers and grow rapidly for about fifteen days; then they coil up and become encysted. The encystment begins about one month after ingestion and is complete by the eighth to the twelfth week. These forms are said to continue to live for twenty to thirty years. In time some of the cysts die off and are absorbed and some become calcified. When meat containing the living cysts is eaten, the cyst wall is digested, and the cycle begins all over again.

Pathology

The only characteristic pathology found is in the striated muscles. There may be evidence of toxic or mechanical effects on any

*The antigen used in this series of cases was supplied by Dr. O. R. McCoy of Rochester, New York. The author appreciates his kindness and cooperation. The author is also indebted to Dr. Wilfred S. Dennis of Denver, Colorado, for his assistance and constructive criticism of this paper.



Fig. 1. Microphotograph of biopsy of deltoid muscle in Case No. 3 showing a living larval form of Trichinella Spiralis in a teased specimen.

or all organs or tissues. The findings of acute gastroenteritis, pulmonary congestion, or bronchopneumonia are common.

In the muscles, as early as the ninth or tenth day, the embryos may be found lying in or between the fibers, surrounded by a cellular infiltration. The muscle fibers undergo cloudy swelling, fatty degeneration, and lose their transverse striation.

Symptoms

Symptoms may be entirely absent; or there may be the symptoms which usually accompany an acute febrile condition. The most striking of these appear one or two weeks after ingestion of infested meat. They are fever, headache, anorexia, edema of the face, aching and tenderness of the muscles. They tend to subside as encystment of the larvae occurs, but weakness and anemia may persist and convalescence be prolonged.

Laboratory Findings

Frequently, the first suspicion of trichinosis is aroused by the return of a routine blood count containing a high per cent of eosinophiles. It tends to be higher than in any other condition, usually 30 per cent, and frequently higher—even 80 per cent. The degree of eosinophilia does not depend on the severity of the infestation except in fatal cases. McDonald aond Wadell[9], however, reported cases of trichinosis with low or absent eosinophilia. Opie[10], working with guinea pigs fed with trichinous meat, felt there was no constant alteration of eosinophiles until the end of the second week when a rapid increase occurred. He found that infestation with large numbers of parasites caused a rapid diminution of eosinophiles and was rapidly fatal; whereas mild infestation stimulated large numbers of these cells. Also, that the number of eosinophiles always decreased before death usually to less than 1 per cent.

Within the first few weeks of the disease, it is sometimes possible to recover the adult parasites from the stools or the embryos from the circulating blood or spinal fluid. After the ninth or tenth day, it may be possible to find the embryos in a biopsy specimen of striated muscle.

The skin and precipitin tests are the newer laboratory aids. They were demonstrated by Bachman[11,12] in 1928. Both are valuable aids in diagnosis, but cannot be considered certain diagnostic tests. The precipitin test can be detected about a month after infestation. The skin test is performed by intradermal injection of the antigen. It gives an immediate reaction, occurring within 5 to 15 minutes, and fading in one to two hours. McCoy, Miller, and Friedlander[13] demonstrated that about 90 per cent of persons ill with trichinosis will give a positive skin



Fig. 2. Microphotograph of a specimen of sausage meat, the source of infection in Family No. 2, showing an encysted larva of Trichinella Spiralis.

test, providing the disease is sufficiently established, i. e., two to three weeks after infection. McCoy, et al, have modified Bachman's method of preparation of the antigen used in these tests. You are referred to these authors for technic.

Diagnosis

A history of typhoid-like symptoms occurring in several members of the same family a week or ten days after having eaten pork, or pork products, should suggest the condition, especially in the presence of edema of the eyelids and muscular pains and tenderness. A marked eosinophilia is strong supportive evidence and, frequently, is the first thing to arouse suspicion as to the true nature of the patient's illness. The intradermal and precipitin tests are further supportive evidence. An attempt should be made to procure and examine a sample of the suspected meat for encysted Tricinella Spiralis. The diagnosis is proved by finding the parasites in the stools or the larvae in the blood, spinal fluid, or in a biopsy of a piece of striated muscle. McDonald and Wadell[9] feel that the typical myositis is characteristic, and that the larvae themselves need not be found.

Spink and Augustine[14] in their analysis of thirty-five cases of trichinosis, show the relative importance of laboratory data, additional history, and clinical observation for correct diagnosis. The original history and physical examination alone led to the correct provisional diagnosis in only eleven out of their thirty-five cases. The remainder of their provisional diagnoses show the variety of conditions that need to be differentiated. They are: Acute nephritis, upper respiratory infection, typhoid, pelvic inflammatory disease, poliomyelitis, gastroenteritis, tuberculous meningitis, colitis, angioneurotic edema, erysipelas, undulant fever, tetanus, occupational conjunctivitis, influenza, peripheral neuritis, lead poisoning, scarlet fever, arthritis, hypotension, rheumatic endocarditis, syphilis and tuberculosis.

According to Conner[15], there are many cases in which the pathognomonic symptoms are so wanting, or the clinical picture so closely resembling that of other diseases, that mistakes in diagnosis are not easily avoided. In serious cases there may be no eosinophilia. Some cases run an afebrile course. Rarely, there may be a false positive Widal. Reifenstein, Allen, and Allen[16] found a palpable spleen in seven out of their ten cases. Conner's[15] atypical cases simulated acute nephritis, acute meningitis, and acute frontal sinusitis. Also, there were cases with conspicuous and alarming throat symptoms and others with epigastric pain as the chief or only symptom.

Prognosis

The mortality of trichinosis is very difficult to determine. Ransom[17] in his study of the 1,550 reported cases with 240 deaths occurring in the United States from 1842 to 1914, found a mortality of about 16 per cent. In the 320 cases reported in the last five years of that period there were nineteen deaths (or a mortality of 6 per cent).

However, many mild or symptomless cases never report for treatment, and some which do seek medical aid are not recognized. Thus, the true mortality statistics are probably considerably lower than the reported cases would indicate.

The prognosis in any given case would depend on the severity of the infestation. The more severe the early diarrhea, the better the prognosis[5], because more adult parasites would leave the gastrointestinal tract before depositing their embryos. Weiss[18] and Jaisohn[19] feel that the prognosis is poor when the eosinophile count is low or suddenly subsides.

Prophylaxis

To do away with trichinosis it is necessary to prevent the eating of meat containing living trichinae. Meat inspection for Trichinella Spiralis is costly and impractical. Although it is desirable to eliminate trichinous meat, it is not essential, because it can be rendered non-infectious by proper methods. Ransom[20], in 1914, showed trichinous meat can be rendered harmless by holding it in a frozen condition for two to three

weeks. Augustine[21] concluded that raw pork in commercial quantities may be rendered harmless by either rapidly lowering its temperature to —35° C., or by rapidly lowering its temperature to —18° C., and holding it there for at least twenty-four hours. Based on these studies, the Federal Meat Inspection Authorities have adopted a requirement that all muscle tissue of pork to be used in the preparation of products to be eaten raw must be held for twenty days at a temperature of not above —15° C., or it must be heated to a temperature sufficiently high to insure killing all trichinae, i. e., 60° C.[1]. As these measures will not protect families who raise hogs for their own consumption, general education against the dangers of eating pork raw or only partially cooked would be of great value. Ransom[17] found that it takes a long time for heat to penetrate meat; so that the center of meat thought to be thoroughly cooked may be insufficiently cooked to kill all the trichinae.

Treatment

The treatment is entirely symptomatic and supportive. Violent initial catharsis may be of value early in the disease. Daily enemas as recommended by Aldridge[2] would seem to be useless considering the location of the parasites. Salzer[22] reported favorably on the use of convalescent serum. Schwartz[23] could not bear out his findings. The arsenicals have been used but have no action on trichinae.

Case Reports

The following series of cases consists of members of two Italian-American families. The first two cases are in the first family; the remainder are in the second family. Seven of the cases were sufficiently ill to require hospitalization and were patients in the Denver General Hospital. The others were symptom free, in spite of the fact that they had eaten of the same meat that was responsible for the illness of the members of family No. 2.

The source of infection in family No. 1 was bacon purchased from a regular meat market, according to history obtained from Case No. 2. The two boys ate the bacon raw, being in a hurry to get to school. The other members of that family ate some of the bacon, also, but only in cooked form. Family No. 2 bought pork from a peddler. They converted this pork into sausage meat and sampled it frequently during the process of seasoning. The finished product was eaten raw and cooked by all the members of this family.

CASE 1

A. V., a twelve-year-old male, was admitted to the hospital on January 20, 1934, with edema of the face of five days' duration, urinary frequency for three days and pain in the abdomen and back for fourteen days. Edema of the eyelids and swelling over the parotid glands was quite marked. Vague abdominal tenderness and tenderness over both lumbar regions, especially on light pressure, was elicited. The admission temperature, pulse, and respiration were: 103°, 140, and 20 respectively. The initial blood count revealed 21,500 W. B. C., 88 per cent polymorphonuclears, 10 per cent lymphocytes, and 2 per cent eosinophiles. The provisional diagnoses of acute nephritis and periniphritic abscess were considered. The blood sugar was 100 mg., the urea nitrogen, 20 mg., and creatinine, 1.5 mg. Cystoscopy and pyelography were normal. One week after admission the eosinophiles rose to 57 per cent of 18,400 W. B. C. No parasites were found in the stool, blood, or spinal fluid. No trichinellae were found in a biopsy of the deltoid muscle on February 1, 1934, nor in a biopsy of the calf muscles on February 12, 1934. The intradermal test produced a wheal of 23 mm. and an erythema of 48 mm. in diameter. The Widal test was negative. The temperature ranged from 102° to 105°, with an average of 103° for a week and then returned to normal during the second week. Symptoms gradually subsided, and the patient was discharged on February 18, 1934. Five months later the blood count was normal with 0 per cent eosinophiles.

CASE 2

F. V., the sixteen-year-old brother of Case 1, was admitted to the hospital on January 23, 1934, with a history of swelling of the face and pain in the back of two days' duration. Examination revealed edema of the face and superficial tenderness over both lumbar regions. The temperature was 103° on admission, dropped one degree per day for two days, continued at 100° for a week, and then became normal. The pulse dropped from 100 on the second day to 90 and remained there. Stool examinations were negative for trichinae and typhoid. The Widal and blood cultures were negative. There were four normal urinalyses. No trichinellae were found in the blood. The intradermal test for trichinosis produced a wheal 15 mm. in diameter, with pseudopodia and an erythema of 28 mm. The admission blood count contained 12 per cent eosinophiles which rose to 46 per cent twelve days later. On February 1, 1934, a biopsy from the deltoid muscle revealed actively motile embryos.

CASE 3

E. V., an eighteen-year-old girl, was admitted to the hospital on January 25, 1934, and discharged April 22, 1934. Her complaints on admission were: Dysuria, frequency, and nocturia

for fourteen days, chills for four days, starting a week before admission, headache, generalized aching, and dizziness. There was generalized muscular tenderness but no edema and no diarrhea. Temperature, pulse, and respirations on admission were: 105°, 110, and 20 respectively. The temperature returned to normal the next day and remained there for a week and a half. It then varied from 102° to 104° for five days, and from 100° to 101° for four weeks. Twelve days after admission, the respirations doubled in rate and became shallow and painful to the patient. Oxygen was administered for four days. A thrombophlebitis developed in the right leg on the sixteenth day. No trichinellae were recovered from the blood. Two biopsies were positive; on January 30, 1934, living trichinellae were seen, and on April 19, 1934, a partially encysted form was recovered. The intradermal test was negative in 1/10,000 dilution, but definitely positive in 1/500 dilution, on February 8, 1934. Recovery was slow and convalescence prolonged.

CASE 4

T. V., mother of E. V., a forty-two-year-old female, was admitted January 26, 1934, and discharged February 24, 1934. She complained of a diarrhea for five days occurring two weeks before admission, also nervousness, weakness, nausea, dizziness, anorexia, cough, and fever of two weeks' duration. On examination there was dullness, diminished breath sounds, and many rales throughout the right lung. The admission temperature, pulse, and respirations were: 102.4°, 130, and 30, respectively. There was no x-ray evidence of pneumonia. No trichinellae were found in the blood. A biopsy of the deltoid muscle was negative. The intradermal test gave a wheal with pseudopodia 133 mm., and an erythema 32 mm. in diameter. The patient still complained of weakness on discharge. She was readmitted for weakness and painful hemorrhoids on March 11, 1934, and had a macular erythematous rash on her abdomen and shoulders which gradually darkened in color and turned brown.

CASE 5

J. V., twenty-year-old son of Case 4, was admitted to the hospital January 27, 1934, and discharged March 4, 1934. There was a history of headache, generalized aching, chills, fever, and weakness of seven days' duration. Physical examination showed only a slight edema of the eyelids and an enlarged submental lymph node. He had a temperature of 102° to 103° for about a week which cleared by lysis. No trichinellae were found in the blood, nor in two biopsies, one on February 11, 1934, and the other on February 28, 1934. The intradermal test formed a wheal, with pseudopodia, 13 mm. in diameter, and an erythema of 31 mm.

CASE 6

M. P., twenty-three-year-old married daughter of Case 4, was admitted to the hospital February 5, 1934, and discharged on March 2, 1934. Her complaints were epigastric pain, anorexia, constipation of ten days' duration, and vomiting five times in ten days. She had chills, fever, cough, weakness of seven days' duration, and tenderness in the calf and neck muscles for four days prior to entrance to the hospital. No larvae were found in the blood, nor in a biopsy of the trapezius muscle. There was a slight edema of the eyelids. This patient did not run any fever throughout her stay in the hospital. The intradermal test was negative in both dilutions (1/10,000 and 1/500). She ran an eosinophilia as high as 38 per cent.

CASE 7

V. P., two-year-old daughter of Case 6, was admitted to the hospital on February 20, 1934, and discharged March 2, 1934. The history was that of fever and cough of four days' duration. There were no physical findings except a temperature of 102°, which subsided by lysis in three days. She was known to have eaten the infested meat. She had an eosinophilia of 10 per cent. No blood examination nor biopsy was made.

The remaining five cases were symptom free, although they had partaken of the infested sausage. Blood counts were taken on these cases as often as they reported to the hospital for that purpose.

CASE 8

S. P., four-year-old son of Case 6, had a maximum of 13 per cent eosinophiles out of a total of four blood counts.

CASE 9

J. V., forty-five-year-old husband of Case 4, had a maximum of 27 per cent eosinophiles and a total of three counts.

A SUMMARY OF SYMPTOMS, PHYSICAL SIGNS, AND LABORATORY FINDINGS

Case	Age	Sex	Maximum Eosinophilia	Headache, Fever, Malaise, Anorexia	Muscle Tenderness	Respiratory Symptoms	G.I. Symptoms	Edema	Biopsy	Blood Examination	Stool Examination	Spinal Fluid	Skin Tests	
*A. V.	12	M.	57	Yes	Yes	No	No	Yes	N	N	N	N	P	1/10,000
*F. V.	16	M.	44	Yes	No	No	No	Yes	P	N	N	..	P	1/10,000
E. V.	18	F.	32	Yes	Yes	Yes	No	No	P	N	..	..	P	1/500
T. V.	42	F.	38	Yes	No	Yes	Yes	No	N	N	..	..	P	1/10,000
J. V.	20	M.	42	Yes	No	No	No	Yes	N	N	..	..	P	1/10,000
M. P.	23	F.	38	Yes	Yes	Yes	Yes	Yes	N	N	..	..	N	
V. P.	2	F.	10	Yes	No	Yes	No	No	..	..	..	..	..	
†S. P.	4	M.	13											
†J. V.	45	M.	27											
†E. V.	6	M.	12											
†D. V.	2	M.	4											
†C. P.	25	M.	3											

*These are family No. 1, all others are family No. 2.

†These had eaten the same infested meat the others did but were symptom free.

F EOSINOPHILES ARRANGED ACCORDING TO DATE

TOTAL WHITE BLOOD COUNTS AND PER CENT O

Date	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6	Case 7	Case 8	Case 9	Case 10	Case 11	Case 12
1/21/34	21500-2											
1/22	15000-5											
1/24		9400-12										
1/26			10000-4									
1/27	18400-57			12000-22								
1/28	16000-51											
1/29		12000-35	9300-17	7900-38	8500-11							
2/1	15600-27	15800-42	12050-11	11500-36	13400-15							
2/2	14500-27	22000-43	13500-11	9700-28	10750-20							
2/3	14500-37	18650-37	10550-17	8850-29	12400-24							
2/5	10550-24	20400-46	11900-23	8950-29	8650-18	7300-7			5000-10			
2/6	8800-22	20850-43	14950-23	6000-31	14700-24	6200-19						
2/7	10400-30	17950-38	15650-13	2900-15	8500-23	7700-15						
2/8	6000-33	11400-37	11600-14	9000-26	7400-28	9400-13						
2/9	10250-37	15650-39	11950-26	9450-34	7750-20	9050-13						
2/10	9950-27	15800-44	12550-26	6150-30	10000-24	7650-11						
2/12	10400-25	12800-27	10050-18	10600-28	10550-30	9800-28						
2/13	10900-29	23000-22	8950-28	7850-40	9600-42	8350-20						
2/15	15150-30		8950-18	9250-38	12450-37	8450-22			5200-27			
2/16	14100-32		9700-17	6050-23	12400-30	7050-24						
2/17	16450-22		8910-18	8550-28	11850-24	12750-25						
2/19			12550-19	10400-17	10220-20	11700-19						
2/20			10600-14	9050-36	8950-32	9550-18						
2/21			9400-15	11450-24	10350-41	9600-38						
2/23						10450-29	12450-6	13900-13				7200-3
2/24							7870-2					
2/26					10950-34		12800-4					
2/27			9650-17				18850-2					
2/28							12100-2					
3/1			10500-10		12350-32	8850-26	11850-8					
3/5			15000-20									
3/7					8400-31							
3/9			7600-10			11500-22						
3/12			12400-20	6000-30								
3/16			16000-25	8700-18								6900-2
3/21			12200-32	7150-30	11800-3							
3/24			13600-25	7850-18		10200-34						
3/26			7000-24	6500-26								
3/29			22000-31	7800-12				12600-8				
4/4			15000-23	9550-14	8900-6				4700-14	6200-4	6200-4	
4/9			11400-18			11700-14	12100-10			9900-12		
4/12			13600-21	14800-13								
4/19			12250-12	8750-29								
5/4			7300-13		7000-5	6200-5						
5/11			6800-8				14000-2			6400-0		
5/23			5300-7		16200-2					5600-6		
6/1			7900-3			4900-3				6000-2		
6/21			5900-2		6000-3			5400-1				
7/9			5200-2		9700-2	8300-2						
7/16	9600-0				6900-2							
9/17			6000-3		7600-4							
10/26												
11/19					6300-2	5200-5	6200-1					6000-1
12/5					5400-2			7200-4				
1/25/35					5200-1							
7/18/35					6950-1							

CASE 10

E. V., six-year-old-son of Case 4, had a total of four blood counts and a maximum eosinophilia of 12 per cent.

CASE 11

D. V., two-year-old son of Case 4, had only one blood count taken, on April 6, 1934, and an eosinophilia of 4 per cent.

CASE 12

C. P., husband of Case 6, had three blood counts taken with a maximum eosinophilia of 3 per cent.

Discussion

In family No. 1, due to lack of cooperation, no study could be made of the members who presented no symptoms. In the second family, it is curious that of the ten members who ate of the infested sausage only five (or 50 per cent) had symptoms of trichinosis. All but two (D. V. and C. P.) had a definite eosinophilia, and one of them (D. V.) had only one blood count taken, and it was taken three months after the infestation occurred.

In this series of cases, the maximum eosinophilia ranged from 10 per cent to 57 per cent and bore no relation to the severity of the symptoms.

The symptoms occurring in these cases in order of frequency are:

Fever	6
Edema	5
Headache	4
Malaise	4
Anorexia	4
Weakness	4
Cough	4
Abdominal pain	4
Abdominal tenderness	4
Muscle tenderness	4
Vomiting	2
Constipation	2
Dizziness	2
Dyspnea	1
Cyanosis	1
Nausea	1
Diarrhea	1

The provisional diagnoses that were made in these cases after the history and physical examination, but before laboratory data was obtained, were as follows:

Trichinosis	2
Typhoid	2
Mumps	2
Acute upper respiratory infection	2
Acute nephritis	1
Perinephritic abscess	1
Acute pyelitis	1
Bronchopneumonia	1

The two cases in which there was a preliminary diagnosis of trichinosis were admitted to the hospital after a diagnosis had been made in other members of the family and a history of having eaten the infested sausage obtained.

Only one of the patients presenting symptoms was severely ill (Case 3). Ten days after admission to the hospital, her respiration became rapid, shallow, and painful. She became cyanotic and required oxygen for four days. No evidence of pathology in the chest was found to account for these symptoms, either on physical examination, or in the x-ray. Probably the respiratory difficulty was secondary to trichinous involvement of the diaphragm and the intercostal muscles. The intradermal test was performed on six of the hospitalized cases. Four were markedly positive in 1/10,000 dilution, one negative in 1/10,000 dilution but definitely positive in 1/500 dilution, and one was negative in both dilutions. A like number of controls were run on members of the hospital staff, all of which were negative.

The search for parasites was not very successful. The circulating blood was examined for trichinellae in six cases, the stools in two, and the spinal fluid in one; but no parasites were found in any of them. Positive biopsies were obtained in only two cases (No. 2 and No. 3) and negative biopsies in four cases. Second biopsies were performed in four cases (No. 1, No. 2, No. 3 and No. 5), but parasites were found only in one (No. 3).

Summary

Some of the salient features of trichinosis are quoted from the literature.

Twelve cases of trichinosis occurring in Colorado are reported. These cases occurred in two Italian-American families having independent sources of infestation.

Raw bacon, purchased from a regular meat market, and pork, purchased from a peddler's wagon, were the respective sources of infection.

Investigation of other members of the first family was prohibited by lack of cooperation. Only 50 per cent of the members

of the second family who had eaten the infested meat presented symptoms. Only one of the cases presenting symptoms was seriously ill (No. 3), and she required the administration of oxygen for four days because of respiratory difficulty, probably due to trichinous involvement of the diaphragm.

Follow-up blood counts were obtained in five of the hospitalized cases. Within five to six months after infestation, the eosinophile count had returned to normal in each of the cases followed.

Treatment was entirely symptomatic.

All of the cases recovered.

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PUBLIC HEALTH NOTES

No Deaths From Typhoid in Twenty-four Cities

Twenty-four large cities had no deaths from typhoid fever during 1935, as shown in the twenty-fourth annual report on this disease, which is made by the American Medical Associtaion and published in The Journal of June 6. These cities are Bridgeport, Conn.; Cambridge, Mass.; Elizabeth, N. J.; Erie, Pa.; Fort Wayne, Ind.; Grand Rapids, Mich.; Jacksonville, Fla.; Jersey City, N. J.; Long Beach, Calif.; Milwaukee, Wis.; Newark, N. J.; New Bedford, Mass.; New Haven, Conn.; Omaha, Neb.; Paterson, N. J.; Peoria, Ill.; San Diego, Calif.; Scranton, Pa.; Somerville, Mass.; Springfield, Mass.; Tacoma, Wash.; Trenton, N. J.; Wichita, Kans.; and Youngston, Ohio.

Eight of these cities—five of them in New England, had no deaths either from typhoid or diphtheria in 1935. They are Bridgeport, Cambridge, Erie, New Bedford, New Haven, Scranton, Springfield and Tacoma.

The total of typhoid deaths for the ninety-three large cities annually surveyed by the American Medical Association was 385 in 1935 as against 470 in 1934.

At the other end of the scale are seven cities with high death-rates from typhoid. In the order of high mortality from the disease, they are El Paso, Texas; New Orleans, La.; Nashville, Tenn.; Tampa, Fla.; Norfolk, Va.; Knoxville and Memphis, Tenn. In some of these cities, one-third or more of the reported deaths from typhoid fever were stated to be among non-residents.

If a child be born well, at least two-thirds of its battle for life is won.—William Colby Cooper.

Treatment of a structure (thymus) whose function is not understood by an agent (x-ray) whose remote effects are poorly understood seems to be potentially dangerous. —New England Journal of Medicine.

Medical Organization

American Legion Invites Our Counsel

RECENT correspondence with the American Legion, Department of Colorado, in which the Legion cordially invites our Society to take part in discussion of Legion activities having medical features, has opened a new avenue of cooperation which officers of the Society are delighted to acknowledge and utilize.

The Legion's Colorado Department will conduct its annual Winter Conference all day Sunday, December 6, in the Silver Glade Room of the Cosmopolitan Hotel, Denver. All interested members of The Colorado State Medical Society are invited to attend the sessions, which open at 9:00 a. m. Physicians will be especially interested in the principal address of the morning, which will be given by Mr. Homer L. Chaillaux, National Americanism Director.

In the afternoon the Legion Conference will proceed to the study of rehabilitation of sick and disabled World War veterans. We quote concerning this conference from a letter addressed to President A. J. Markley of the Medical Society by Mr. M. L. Lyckholm, Department Adjutant:

"At about 2:00 p. m. we will proceed to the study of rehabilitation of our sick and disabled World War veterans. A. D. Borden, new regional manager for the Veterans' Administration for Colorado, will explain the functions of the Veterans' Administration and outline its policies; R. P. Thurman, of the Adjudication Section of the Veterans' Administration, will outline all benefits allowed by law to all World War veterans and explain in detail the principles of compensation, pension, death pension, etc.; Dr. Edmund Eastwood, Colorado Veterans' Administration Regional Officer, who succeeds Dr. H. J. Stinson, will cover the subject of hospitalization of World War veterans in Government and state institutions; A. F. McLaughlin, Chief of the Denver Office, Veterans' Administration Rating Board, will lead a discussion on the adjudication of claims, etc.; Goddard Shackelford, Secretary for Area E of the National Rehabilitation Committee of the American Legion, will discuss the necessity of appointment of Service Officers is each of our 130 Colorado Legion Posts, and the function of those men in connection with the claims of veterans which may be presented to the American Legion in this state for assistance.

"It is in connection with this Rehabilitation Section, particularly, that we would like to have a representative present from The Colorado State Medical Society. We would like to have that man hear the various papers presented under this Rehabilitation Section in order that he might understand the point of view of the American Legion and the Veterans' Administration, and we would like to have him give a talk outlining the objectives of Organized Medicine and generally present the views of your State Society. We would like to have him make recommendations as to how our organization, in carrying out the Rehabilitation program, might more effectively cooperate with the State Medical Society.

"Since the relations between our two organizations have always been most cordial, I feel that the members of our Conference will be more than pleased to receive the point of view of Organized Medicine, particularly in connection with the dangers of socialized medicine, and the assurance of continued cooperation from members of your Society, in return for which, I assure you, you already have our full desire to cooperate completely . . .

"(Simultaneously) . . . there will be a section of the program set aside for the explanation, to all of our Legion and Auxiliary members interested, of the program on the subject of Child welfare. . . . We would like to have one of your representatives appear before this Child Welfare Section as an invited guest from your Society, and there, too, present the picture of Organized Medicine. This would mean that there would be one speaker from your group before the Rehabilitation Section, and another speaker, appearing at about the same time, before the Child Welfare session. . . .

"We do not wish to limit our invitation, however, to just those two speakers. We heartily invite every member of the State Medical Society to participate in this Conference and ask that, through you, the invitation be extended to all of your members. . . ."

Members of the Society will be interested to know that President Markley has appointed Drs. John W. Amesse and George P. Lingenfelter of Denver to represent the Society officially before these meetings and make the addresses suggested. Here is an opportunity for members of the Society to show that they appreciate the cooperative spirit of the American Legion in our mutual problems. It is hoped that representative members from many parts of the state will attend.

PRELIMINARY PROGRAM

MIDWINTER POSTGRADUATE CLINICS

of the

COLORADO STATE MEDICAL SOCIETY

Denver—Jan. 21, 22, 23, 1937

THURSDAY, JANUARY 21

8:30 a. m. to 10:30 a. m.—At Saint Luke's Hospital: General Surgical Clinics (non-operative), including Urology and Proctology.

11:00 a. m. to 2:30 p. m.—At Denver General Hospital: Clinics in Traumatic Surgery, including Fractures, Burns, etc.

(Complimentary Buffet Luncheon at 12:30 p. m.)

3:00 p. m. to 5:00 p. m.—At Downtown Auditorium*: Medical Clinics.

7:00 p. m.—Subscription Dinner,* with Guest Speaker.

FRIDAY, JANUARY 22

8:30 a. m. to 10:30 a. m.—At St. Joseph's Hospital: General Surgical Clinics (non-operative), including Urology.

11:00 a. m. to 2:30 p. m.—At Denver Children's Hospital: Symposium on the Diseases of the Nervous System in Children (pediatric, neurologic, and orthopedic aspects).

(Complimentary Buffet Luncheon at 12:30 p. m.)

3:00 p. m. to 3:45 p. m.—At Downtown Auditorium*: Radiological Clinic; Treatment of Malignancy of Head and Neck.

3:45 p. m. to 5:30 p. m.—At Downtown Auditorium*: Dermatological Clinics; Demonstrating the More Common Skin Diseases.

8:00 p. m.—At Downtown Auditorium*: Public Health Meeting, with out-of-state Guest Speaker.

SATURDAY, JANUARY 23

8:30 a. m. to 10:00 a. m.—At Colorado General Hospital: Clinics in Ophthalmology.

8:30 a. m. to 10:00 a. m.—At Colorado Psychopathic Hospital: Symposium on Fever Therapy with Demonstration of Treatment.

10:00 a. m. to 11:00 a. m.—At Colorado General Hospital: Clinics in Otolaryngology.

10:00 a. m. to 11:00 a. m.—At Colorado Psychopathic Hospital: Clinics in Psychiatry.

11:00 a. m. to 12:30 p. m.—At Colorado General Hospital: Medical Clinics including Clinicopathological Conference.

(Complimentary Buffet Luncheon at 12:30 p. m.)

2:00 p. m. to 4:00 p. m.—At Downtown Auditorium*: Clinics in Obstetrics and Gynecology.

4:00 p. m. to 5:00 p. m.—At Downtown Auditorium*: Out-of-state Guest Speaker on Clinical Subject.

*Exact location to be announced later.

Obituary

S. C. Halley

Samuel C. Halley, who had practiced medicine in Fort Collins for the past thirty-two years, died October 29, after a cerebral hemorrhage.

After practicing in Auxvasse, Mo., for eleven years, Dr. Halley came to Fort Collins. During the later years of his practice, he was widely accepted as one of the foremost anesthetists of Fort Collins.

Dr. Halley was born in 1869. He attended school at Westminster College and received his medical degree from the Barnes Medical College in St. Louis.

Survivors include his wife, three sons, Lawrence, Samuel, and Thomas; two brothers, T. C. Halley of Scottsbluff, Nebraska, and T. H. Halley of Auxvasse.

Edgar C. Webb

Edgar C. Webb, Canon City physician and one of the community's outstanding citizens, died October 30 after a week's illness from pneumonia.

There were but few activities for community betterment in which Dr. Webb did not take part. He donated willingly to charitable organizations, and in his own practice was known to do more than the usual amount of free work.

His membership in professional organizations included the American Medical Association, the Colorado State Medical Society, and the Fremont County Medical Society, as well as specialized organizations in eye, ear, nose and throat.

Dr. Webb was born in Indianapolis, Ind., in 1884. He grew up in Indiana and received his medical training at Indiana university, where he was graduated in the class of 1912. In 1914 he married Anna Carolyn Paul.

Dr. Webb began the practice of medicine in Indianapolis, but in 1915 moved to Canon City. Starting as a general practitioner, he gradually shifted into the field of eye, ear, nose and throat and in the last few years specialized in that line. He took postgraduate work in that line at Harvard University and in Los Angeles.

Survivors include his wife, one daughter, Miss Mary Louise Webb, and two brothers, Dr. John W. Webb and Allen Webb, both of Indianapolis, Indiana.

SIXTY-SIXTH ANNUAL SESSION, COLORADO STATE MEDICAL SOCIETY

Glenwood Springs, Colo., September 10, 11, 12, 1936

PROCEEDINGS OF THE GENERAL MEETINGS[1]

The Sixty-sixth Annual Session of the Colorado State Medical Society convened in the Hotel Colorado, Glenwood Springs, on Thursday morning, September 10, 1936, for its first scientific session, being called to order at ten o'clock by President Walter W. King.

President King: "The hour of ten has arrived!

"I now have a combination of sadness and pleasure—sadness to leave the office with which you have honored me and pleasure at the introduction of the distinguished gentleman whom I will ask two Past Presidents, Dr. Spencer and Dr. Stephenson, to conduct to the platform—your incoming President, Dr. A. J. Markley."

Dr. Markley assumed the Chair.

President Markley: "Members of the Colorado State Medical Society: I can assure you that it is with no inconsiderable misgiving that I assume the place of my distinguished predecessor. With all the kindly feeling in the world for Dr. King, who is my especially good friend, I am sure that I will never quite dismiss the very definite amount of resentment that I feel for him for having made so difficult the job of being President of this Society!

"However, I believe that some of you may take some reassurance in the fact that I have had a year of apprenticeship under his scrutinizing eye and I pledge you my very best efforts in the succession to his place.

"We will now proceed with the regular program.

"The first number on the program is to be a paper entitled, 'Observations on 100 Cases of Appendicitis,' by N. L. Beebe, M.D., of Fort Collins."

Dr. Beebe read his paper.

President Markley: "Next on the program is a paper entitled 'The Price "Coffer Dam" Pack in Acute Appendicits,' by Dr. Haynes J. Freeland of Denver."

Dr. Freeland read the paper.

Discussion on the two preceding papers was opened by Dr. J. N. Hall, Denver, and continued by Drs. W. W. Haggart, Denver; Edward Jackson, Denver; C. S. Elder, Denver, and closed by Dr. Freeland.

President Markley: "Next on the program is a paper entitled, 'Diagnosis and Treatment of Peripheral Vascular Disease,' by A. W. Metcalf, M.D., of Denver."

Dr. Metcalf read the paper.

"Next on the program is a paper entitled, 'Clinical Indications and End Results of Sympathectomy,' by M. C. Jobe, M.D., Denver."

Dr. Jobe presented his paper. However, the lantern was not working to show his slides. In the wait, Dr. Markley proceeded as follows:

President Markley: "Gentlemen, we should like to utilize this short wait to present our very distinguished guest, the President-elect of the Ameriran Medical Association. I will ask Dr. Amesse, our senior delegate to the American Medical Association, if he will please present him."

Dr. Amesse: "Mr. President, Members of the Society and Guests: It is a very genuine pleasure and a privilege to present this morning the President-elect of the American Medical Association, Dr. Upham, who in season and out of season has been the consistent friend of the general practitioner."

Dr. Upham: "Mr. President, Members of the Society: This is an unexpected pleasure to speak to you this morning. I simply want to express my very great joy in being here, and also say that I have looked over your program with a great deal of interest. May I congratulate you on this splendid array of papers and addresses that have been prepared for you? I am particularly interested in seeing the prominence given to your Clinico-Pathological Conference. I think that is a very fine development. I think the more we tie up our pathological work with our daily practice, the more we study our cases from the pathological point of view, the more we know what we are actually treating, the better treatment we will give.

"It has been a pleasure, in going around, to see the different problems that you have in different states. This is the third meeting I have attended within the last month in different parts of the country.

"It isn't always the size of an organization, by any means; it is the quality of work that is being done.

"It is a very great pleasure for those of us in the more crowded centers, to see your work. My own state, for example, is only a small state, possibly two hundred miles square, yet we have nearly seven million people and we have a state medical organization of fifty-five hundred. We have, basically, the same problems that you have, —keeping our profession up to the high standard that we feel the general public should have.

"These meetings are really postgraduate meetings and are extremely helpful. In the meetings that I have attended so far, the quality of the programs presented and the relative attendance in comparison to the size of the organization in the various states, has been very gratifying, and the attention given has been splendid. It seems to me this augurs well for the standards of the medical profession,—to have such well-attended meetings and such fine programs. It shows that the medical profession as a whole is interested chiefly in maintaining its own high standard of of practice.

"I shall be very happy to attend your various sessions, observing the quality of work that is being done here, and I shall take back reports that the medical profession here is keeping up well in the march of progress.

"I shall speak to you later, and as I don't want to shoot off all my ammunition at one time, I shall close my remarks at this point.

"Thank you."

The papers of Dr. Metcalf and Dr. Jobe were discussed by Drs. Joseph R. Plank, Denver; J. R. Jaeger, Denver. The lantern having been repaired, Dr. Jobe presented his slides.

President Markley: "Next on our program is an address by one of the outstanding syphilologists of this country,—a man of the widest clinical experience who has done a great deal of investigative and original work on this subject and

[1]Papers and discussions not already published in the October and November, 1936, issues, will be published in succeeding issues of Colorado Medicine.

who has taken a very important part in the campaign for the control of syphilis that has been, for a number of years, conducted by the United States Public Health Service,—on the subject of 'The Syphilis Problem—What Shall We Do to Meet It?'

"I now have the pleasure of presenting to you Dr. Harold N. Cole of Cleveland, Ohio."

Dr. Cole read his paper[2].

Announcements were made, whereupon the meeting adjourned until 1:30 p. m.

At 1:30 o'clock there was a half hour session devoted to Demonstrations by Exhibitors.

The Scientific Session convened at 2 o'clock, with Dr. Herman C. Graves of Grand Junction, Vice President, in the Chair.

Dr. Graves: "Due to the absence of Dr. Bortree, I have the pleasure and privilege of introducing the President, who will give his Presidential Address at this time."

President Markley then delivered his address.[3]

The program then continued under the chairmanship of Vice President Graves, with papers and discussions in the following order:

"Chronic Headache," by Dr. Paul Draper of Colorado Springs; discussed by Drs. J. R. Jaeger, Denver; T. E. Carmody, Denver, and closed by Dr. Draper.

"Verruca, with Description of a Recently Introduced Theatment," by Dr. Jack G. Hutton, Denver; discussed by Drs. John V. Ambler, Denver; Harold N. Cole, Cleveland, Ohio; Chairman Graves, and closed by Dr. Hutton.

"Etiology, Symptoms, and Treatment of Delirium Tremens," by Dr. J. P. Hilton of Denver; discussed by Capt. E. H. Parsons, M.C., U.S.A. Fitzsimons General Hospital, Aurora; Dr. G. H. Ashley, Denver, and closed by Dr. Hilton.

"New Methods in the Treatment of Pneumonia," by Dr. John I. Zarit, Denver; discussion by Dr. John B. Farley, Pueblo.

"Unusual Complications in Hernia Operations," by Dr. Raynor E. Holmes, Sr., Canon City; discussed by Drs. Harold T. Low, Pueblo; Philip Hillkowitz, Denver; C. Lee Wilmoth, Denver; N. L. Beebe, Fort Collins, and closed by Dr. Holmes.

Discussion of Dr. Zarit's paper on Pneumonia was reopened by Dr. John B. Crouch, Colorado, and continued by Dr. Philip Hillkowitz, Denver, and Chairman Graves.

The meeting adjourned at 5:00 p. m.

The Scientific Meeting was called to order at 10:00 a.m. Friday, September 11, 1936, by President Markley. The program proceeded as follows:

"Inter-relation of Surgical and Medical Care in the Treatment of Biliary Tract Disease," by Dr. Herbert A. Black of Pueblo; discussed by Drs. Frederick Singer, Pueblo; and James J. Waring, Denver.

"Current Activities of the State Board of Medical Examiners," by Dr. Vardry A. Hutton, Florence; discussed by Drs. F. R. Spencer, Boulder; Frederic Singer, Pueblo; M. C. Jobe, Denver; N. A. Madler, Greeley; H. W. Snyder, Denver, and closed by Dr. Hutton.

President Markley: "The Society is aware of the fact that the next number on the program is not to be presented because of the unavoidable absence of Dr. Haralson. The Program Committee has determined to devote this next half hour to a roll call and brief remarks by our ex-Presidents. We are fortunate today in having with us our senior ex-President, Dr. Hubert Work, whom I will ask to please take the Chair and conduct this number."

The audience rose and greeted Dr. Work with applause. Dr. Work took the Chair.

Chairman Work: "President Markley, Fellow Members of the Colorado State Medical Society: I have been a member of this organization since 1887, and it so happens that I was elected President of this Association in 1894. So, by virtue of that fact, I am the oldest living ex-President of the Association—I should say in point of service.

"There have been sixty-five Presidents of the Colorado State Medical Society. Forty of these have answered their Last Call. There are twenty-five now living, all of them in good health, with perhaps three exceptions—Dr. Epler of Pueblo, Dr. Senger of Pueblo, and Dr. McHugh of Fort Collins, who are not in as good health as we would like to see, yet they are still going, though not so strong.

"I can refer to this list without boasting, I think, as a list of the elect; since they were selected by the Association, I think we are entitled to that designation. There is not a great list here, of those who have passed over, of those whom you will remember, except perhaps Dr. Hall, Dr. Levy, and Dr. McNaught. If you will allow me a moment, I will just name the Presidents.

"Starting with Dr. Buckingham, we had: McClelland, McMurtrie, Steele, Thacker, Williams, Horn, Stedman, Anderson, Bancroft, H. A. Lemen, Thombs, Whitehead, Hawes, Davis, Graham, Solly, Fisk, Collins, Eskridge, Strickler, Wilson, and Rogers.

"All of these men preceded me in point of service and many—all of them—have long since been gone. My successor was Dr. I. B. Perkins, who is also gone. Following him were: Robert Levy, L. E. Lemen, Campbell, Hall. (Dr. Hall is still with us and has renewed his youth.) Then: Nunn, Corwin, Grant, Hawkins, Frank Finney.

"These men have passed on. Dr. Wetherill is still living, but in California. He is in good health and living a very happy retired life. Dr. Bull has gone. Dr. Whitney is living and Dr. McHugh I mentioned before. Leonard Freeman, Dr. Swan, Dr. John A. Black of Pueblo have passed on. Dr. Gilbert is here present and will speak for himself. Dr. Packard, Sr., has gone; Dr. John R. Espey is living—not in as good health as we'd like. Dr. Magruder is gone. Next was Dr. Jackson, who is here.

"Following Dr. Jackson was Dr. F. H. McNaught. Now Dr. McNaught was twice President of the Colorado State Medical Society and I am wondering why. It may be that at that time we changed the Constitution of the Association and elected a House of Delegates. I might say for personal reference that I was elected President when the whole Society met in the afternoon and all voted. They didn't fix things up then as they do now! Next in the list is Dr. Spencer, who is here today.

"Harry Smith, now living in California, is still with us. Dr. Epler of Pueblo, also. Melville Black is living but not in attendance here. Henry Sewall has recently passed on, full of years and full of honors.

"Dr. Boyd, Dr. Curfman, Dr. Sedwick. The latter two are here. Dr. Childs is here. Childs has also renewed his youth in the last few days!

"Dr. Senger I have mentioned before. Dr.

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[2]Published in the November, 1936, issue of Colorado Medicine, page 750 et seq.

[3]Published in the October, 1936, issue of Colorado Medicine, Page 678 et seq.

Kickland has been called. Dr. Edward Delehanty is here and also Frank Stephenson.

"On this list, all of these men I knew personally except the first four. I have known them all since, and they are, with a very few exceptions, a very creditable representation of the Colorado State Medical Society. Dr. Webb was due here but hasn't come. Dr. Madler was here today but has returned home. Dr. King is here. Dr. Markley has been speaking for himself the last few days.

"As I said before, the roll of honor was sixty-five; forty have been called and twenty-five remain over to cover up the coals that still burn.

"Now I will ask these men to stand up and say a word. I don't want them to talk too long, but what they do say will be gladly received, I am sure, by the State Society.

"Dr. Levy was next to myself."

Dr. Levy: "Dr. Work says, 'Give it to 'em!' and I tell him I sure will! Because whatever Work says goes and that is no idle dream. I can recall a meeting that was held here twenty years ago, 1916, and this is apropos of just the remarks that Dr. Work made to me. I want to say that at that time and even before that Dr. Work showed his talent as an organizer and as a slave driver and a politician in the highest sense of the word. About two o'clock in the morning I was awakened by a knock at the door, upstairs in the room I occupied, and I wondered who in the world wanted me at two o'clock in the morning. I opened the door and here were Dr. Work and Dr. Jayne. They were a self-appointed committee, a so-called Steering Committee, and they woke me at two o'clock in the morning to talk medical politics, and of course, as a result of that, the President that Dr. Work had designated was elected.

"That is the character of the work that was done by these men, and as I sat around here today I visited the House of Delegates for a few moments and looked around and I saw young men there that I knew pretty well, and I think I saw in that rather small attendance (I am sorry to say) of the House of Delegates several men that could carry on in the same effective way, I may say,—perhaps not with exactly the same degree of insight,—for in those days the population was small and our attendance was not what it is today.

"So it was not difficult for the President or a committee to be quite familiar with all the men, and perhaps that was one of the reasons that Dr. Work was elected President when he was,—because it was a personal canvass and one did not have to canvass a Nominating Committee that had already been chosen and cut and dried, but you had to canvass the members of the Society.

"I have checked up on it and I can say for myself—and I venture to say it was the same with Dr. Work—that I knew personally, by name, practically every member of the Society. Then the election was held in open meeting.

"I attended a luncheon in 1934, two years ago, in November. I have a picture of the men who attended; I just happened to think of it as I was seated here listening to Dr. Work speak. All of the men at this luncheon were over seventy. There were fourteen, and among them eight have been President of the State Medical Society.

"I was the youngest man in this aggregation; the average age was 78. I came home that day and Mrs. Levy told me she had just received a telephone message from Dr. Hall saying the next time she allowed me to go to a meeting of that kind she had better send an all-day sucker with me.

"Few men in this Society are privileged or can boast of having done for the medical profession of Colorado what Dr. Work and Dr. Hall have done, and that is not saying anything in derogation of the other men who have been President of this Society.

"Dr. Work has just told you how many among the men who have been President are in attendance at the present time. We all have our parts to play. All the world's a stage and all are players, with their parts to play. They come and they go. They have their exits and their entrances and each man in his time leaves his mark.

"So I hope as we pass on and as we older men give way to the younger men, that some of the things that we have had close to our hearts, principal of which has been the welfare of the medical profession in this community (for we have practiced here all of these years, all of our lives, all our efforts have been given to the medical profession here), that what we have had closest to us will remain still the welfare of the medical profession, the high standards which have been established in Colorado as well if not better than in many of the States of the Union and so recognized by Eastern men. I hope these will be carried on by the young men who are following us.

"We leave them with a feeling that these things are in safe hands and that as we look back, even though we are not extremely active, we can say that their work is being well done."

Chairman Work: "Now, friends, I would ask those that succeed Dr. Levy to not indulge in any more eulogies so far as I am concerned, because these eulogies are not always unmixed.

"Dr. Levy referred to one dinner that was enjoyed by some of us, the average age being 78 years. The dinner was good and the drinks were good, and I ought to say that there wasn't one of the men who left the room during the evening or seemed uncomfortable at remaining.

"In the days when I presided in Denver we appointed a Committee on Arrangements. The next meeting was to be held in Denver. I made Dr. Levy chairman of that Committee on Arrangements. I went to my home in Pueblo and practically forgot about the coming meeting the next year, but Dr. Levy will agree with me that it was the best meeting that the Society ever held before that or since.

"The next speaker will be Dr. Hall. As a boy I heard a great deal and was taught a great deal about the resurrection and the life, and I present Dr. Hall as an example."

Dr. Hall: "At the meeting in 1899 when I was President, illustrating the fact that we all knew each other, in that three-day session I called every man by name instantly when he rose. Nobody will ever do that again!

"I put opposite my name in registering today, 'This is the first time that any member of the Colorado State Medical Society ever registered for his fiftieth attendance at an annual meeting of the Society.' (Applause.)

"It is there in black and white and if our President of the American Medical Association, who is here, learns of some other Society that has such a record as that, I wish he would let me know.

"I beat Dr. Work out in one respect. I have known every one of the sixty-five Presidents of the Society excepting Thacker, who died before I came to the State, and McMurtrie, who was one of the very early Presidents.

"One strange thing happened and the paper of the State Board of Examiners makes me think of it. Forty-seven years ago this month four Denver doctors were appointed to the State Board of Medical Examiners. That included Dr. Work, Dr. J. W. Anderson of Denver, Dr. Tandy Hughes

of Denver and myself, and all of us are living and in reasonable health at this time. I think that is rather remarkable,—that four men appointed forty-seven years ago should all be going.

"For the benefit of the younger members, I should like to say that at that time the Governor considered the names of two gentlemen—one Methuselah and one Noah,—but neither of them could compete with us young bloods!

"In 1902 something else happened which illustrates how things used to be run. Dr. Work and Dr. Levy and two or three others of us talked the matter over and decided that Dr. Grant ought to be the next President. I was just starting for Vienna, and so I wrote on my card to Dr. Grant, 'Congratulations on your election to the Presidency of the State Society,' and took the steamer. As soon as Grant was elected at Pueblo, for the machine used to work like a machine that makes nails in those day,—it was a sure shot,—Dr. Work walked up to him and handed him by card. Grant said, 'Why, for Heaven's sake! This can't be! I know Hall is in Vienna, for I had a card from him last week!'

"Work said, 'Why, Grant, you don't know anything about how accurately our machine works!'

"Thank you, gentlemen."

Chairman Work: "I should say to Dr. Hall's credit or discredit that for many years he always knew who the next President was going to be a year in advance.

"I boasted of having known all of these Presidents except four or five at the top of the list. I made my boast first. Hall says he knew them all but two. Never tell your story until the others have all told theirs!

"Now, Dr. Gilbert, you are the next living President."

Dr. O. M. Gilbert: "Mr. Chairman, I haven't much to say, except that I am gratified, yes proud, to be one of that great list that has been mentioned here who have served you and who have been honored by you with this office. I think I need say no more than that.

"Thank you."

Chairman Work: "I believe that is the best speech yet; it was so short.

"Dr. McNaught, will you come up here and explain to this Society how it came that you served twice as President of this Society?"

Dr. F. H. McNaught: "Mr. Toastmaster-Chairman, I am not prepared for this position I am now occupying. I had no great idea of being here yesterday morning. Coming here and listening to Work, Hall and Levy who have prepared sermons, leaves me in a rather embarrassing position.

"Mr. Chairman, I can't explain why I was president for two years."

Chairman Work: "I thought you were dodging!"

Dr. Gilbert: "Modesty forbids."

Dr. McNaught: "I remember very well 1918, I think it was, at Estes Park, Dr. Black was then President of the Society, I think. He called me up at my home in Denver about six o'clock at night. It was a very severe night, black with thunder and lightning, with the rain pouring. He said, 'We have been waiting for you up here for an hour!'

"I said, 'This is the first intimation I have had that I was wanted up there.'

"He said, 'We have just discovered that a man, to be made President of the Society, has to be at the meeting where he is elected.'

"I informed him that it seemed impossible for me to be up there on such a night, but to please the doctor I made the effort and I was at Estes Park about eight o'clock.

"Just why I was called for this position I do not know, and why I was called on such a night I did not realize.

"I think it is a great privilege to be President of this Society. I am sure it seemed a great honor to me, an unlooked-for honor. I think it is an honor to any man to be President of the Colorado State Medical Society. It is an honor that I cherish,—a splendid heritage.

"In looking over the history of the situation and contemplating fifty years of medical practice, it seems to me that the medical situation today is in a rather critical position. I hear criticism of committees, I hear of little bickerings here and there, but my thought is that the medical profession today should be more unified, should be more closely cemented to confront what seems to be threatening the medical profession. I refer to State Medicine or to Federal control of medicine.

"I feel that it is almost here, and I think it would be a very serious situation for the medical profession today and for those that are to come after us. The only way it would seem to me possible to avoid a situation of this kind, the threat now being made by the Government to socialize medicine, is for this Society and all other Societies of this country to work in harmony and to work for what seems to me almost like preventing the death of the Society. It would be a serious thing.

"I have said to Dr. Work that I don't believe the younger men in this country and in this State are to see the good times that the older ones,—Levy, Hall, Work and myself,—have seen. We have been more independent. I do not think this condition is due to any situation in the medical profession, but it is due to the situation and the times of the world."

Chairman Work: "It is just as I supposed it would turn out; Dr. McNaught's explanation of why he was twice President of this Society didn't explain anything to me! I always thought it was a little bit shady![4]

"I am sorry for that pessimistic note that he introduced. As I look about at the young men of this Society, the young men of the State who are to succeed us in medicine, I think the medical profession is safer today than it has ever been. These young men are as bright or brighter than we were and they are infinitely better educated. They are starting off now to practice medicine where we left off, except that they know a great deal more than we knew. Many of us have learned how to dodge medical questions; they don't do it,—they face them!

"As long as we have men in the profession with the intelligence and acute expressions that I see here, for example, I think the medical profession is safe.

"The practice of medicine has got to be an individual matter between the patient and the physician. They can't regiment the medical profession; it can't be done! We may go through some troublous times. Lord knows that all of us went through some troublous times when we began to practice medicine. The first few years I was in the practice of medicine I didn't practice medicine much, but I practiced economy a lot! I think that is necessary.

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[4]Editor's Note: Dr. McNaught's two-year Presidency came about at the time the Society amended its By-Laws to provide for a President-elect; Dr. McNaught's successor (Dr. F. R. Spencer) was elected at the close of Dr. McNaught's first year of service as President, but did not assume office for another year; hence Dr. McNaught held over, and became the only person to serve two years as President of the Society.

"There is an economic side to the practice of medicine and these young doctors who have got to go into debt the first thing and be in debt all their lives are licked before they start. They have got to pay their debts and be economically independent before they can be professionally independent.

"You see I, as well as McNaught, have got to the age where I want to give advice. I must stop!

"Is Dr. Spencer in the house? Dr. Spencer, step up."

Dr. F. R. Spencer: "Mr. Chairman, Members and Guests: I shan't take much of your time. I am on the program several times today. I want to assure you that I appreciate the many friends I have in the Colorado State Medical Sociey. I want again to express my appreciation of the privilege I had here sixteen years ago in this room, of presiding over the meetings of this Society. It is a privilege and an honor to be a past President.

"Thank you very much."

Chairman Work: "Harry Smith. Is he here?"

Dr. Harry A. Smith: "Gentlemen, I am particularly happy to be here. I can look down there and see so many smiling faces that the Great Chiseler, Time, has been working on so very kindly in the last seven years that I have been away. The pleasure of meeting with you socially is much augmented by my having been away.

"You may know that I have returned from California to this meeting of the Colorado State Society. I wish to bring you greetings from the California State Society. I want this greeting to be to the medical profession. The medical profession began before we had governments. The medical profession, as medicine, goes straight forward with the most bright and shining lights of civilization. There is no recession in the medical profession or its ideals. Governments come and governments go, but the medical profession and its ideals are always attached to the same star and that is as near to perfection as we can attain.

"Since I have been at this meeting I have heard two Government officials say that they would do this and that to and for us. Gentlemen, the medical profession will be a shining place when the governments that they represent will be forgotten!

"This is a new government, a brand new government, and yet they tell us what we are going to do! We're not! That isn't the way civilization advances. Civilization advances by education. The standard of the medical profession is a perfect guide. I come to you from a State where there are more medical cults than any other place in the world. I think we have twenty-six or twenty-seven, yet there is no place where the legitimate practitioner stands out more prominently than in the State of California.

"You don't have the cults here that we have. We have many of them, yet the practice of medicine by the legitimate practitioner is high and getting higher.

"It has been a pleasure to be here and, Dr. Work, I thank you very kindly."

Chairman Work: "I quite agree with the last speaker in the main. The medical profession as we know it can never be regimented; neither can the patrons of the medical profession, who pay the bills of the doctors, be regimented.

"I believe Dr. Melville Black is not here. Dr. Boyd is not here. Dr. Curfman was here. Dr. Childs."

Dr. Childs: "Mr. Chairman, Members of the Colorado Medical Society: It has been very interesting to listen to what the older men in the Society have done. It was eight years ago, or thereabouts, that I was elected to the Presidency of this Society. The men who preceded me made it very easy, and still we want to lay claim to a little of the success of the Society since then.

"We had several committees appointed. A number of men were very good to come from out of town as well as Denver. At that meeting the question uppermost in our minds was, Shall we have an Executive Secretary? We had several meetings and good dinners down at the Denver Club, and we had all the members who were applicants for the position of Executive Secretary. The rule we followed was to have the men come in before a committee of twelve or fourteen and ask them what they wanted to do. We didn't ask them any questions at all; we let them ramble on as much as they wanted to, but we finally picked out a man in whom we made no mistake.

"I want to tell you that it was through those meetings that you were able to secure the services of a man like Harvey Sethman. Harvey Sethman was appointed as Executive Secretary and you know the work that he has done since then."

Chairman Work: "Dr. Senger can't answer, and Dr. Kickland has been called. Dr. Edward Delehanty."

Dr. Delehanty: "Mr. Chairman, I have only a very few remarks to make. I can only repeat what has been said by the previous speakers who have been honored by the Presidency of the Society,—that I look upon it as the acme of medical honors in my career as a physician.

"I was quite amused as I saw these men go up before the microphone. It reminded me a good deal of the gladiators of old when they went into the Coliseum and saluted the Emperor and said, 'We who are about to die salute you!'"

Chairman Work: "It reminds me of the old fire horse who has been retired. When the fire engine would go past rapidly with a great noise and bluster, the old fire horse out in the pasture by the roadside would see the engine go by. He would break the fence and follow to the fire, only to learn that he was of no use when he got there.

"Dr. Stephenson."

Dr. Frank B. Stephenson: "Mr. Chairman and Members: I am not going to talk. I am going to ask a favor of the Chairman. I want to ask you, Mr. Chairman, this favor: I know from experience in handling meetings what it means when a program drags. This program is now behind time. One of our distinguished guest speakers is to talk next. He has been very patient to listen to the history of our local affairs here.

"I am going to ask the Chair if it would be all right for those remaining past Presidents who are here to simply stand and by that act agree with what has already been said by the other men as to the honor that we all feel has been ours."

Chairman Work: "I will consent to that, but I deny the imputation that the meeting has dragged!"

Dr. Stephenson: "The time has not been long enough."

Chairman Work: "Who is it that is going to going to speak next?"

Dr. Stephenson: "Dr. Bauer of Chicago."

Chairman Work: "Oh, the Doctor will wait a few minutes on us! This is a rare opportunity. I am sure he will wait. I must apologize to Dr. Jackson. I omitted calling on him in his proper order."

Dr. Edward Jackson: "I think we can under-

stand why the machine used to work so perfectly and how Dr. McNaught came to be elected twice when Dr. Work was off duty.[4] But Dr. Work is still able to pick his men, and he has saved the greatest honor for me as being able to stop when I am through."

Chairman Work: "I was frightened to death for fear that you wouldn't!

"Dr. King has run out on us. Dr. Markley, you have talked enough. I think that ends the program. Dr. Madler, you were on your feet and then you flunked out on me."

Dr. Madler: "Someone recently asked me if I would attend the meeting at Glenwood Springs and I told him I would. He said so many times, in various organizations, that as soon as a man had been President, had served his term, he would drop out. But that isn't the case with the Colorado State Medical Society, as you have witnessed here today.

"I need not tell you how much I consider it a privilege to have served you during the year. Every year I look forward to this particular day when I can come and look at all of you and shake your hand and speak to you again. I shall continue to do so as long as I am physically able.

"Thank you very much."

Chairman Work: "Now, gentlemen, thank you all. I will make way for the next speaker. Though he is a foreigner, this is our dung hill and we fight best on it."

Dr. Levy: "I would like to suggest that before this is published, the proceedings of this particular hour be edited by a committee to be appointed by the President. If that meets Dr. Work's approval, we will call it a vote."

Chairman Work: "It is so ordered."

Dr. Madler: "Dr. Markley has to attend a meeting, so he asked me to preside at this time. It gives me great pleasure to introduce to you at this time Dr. W. W. Bauer, Director of the Bureau of Health and Public Instruction of the American Medical Association, who will speak to us on the 'Relationship Between the Practicing Physician and the Public Health Worker.'

"Dr. Bauer."

Dr. Bauer: "Mr. Chairman, Dr. Work, Dr. Levy, Dr. Hall and all the other distinguished Presidents: Before launching upon my paper I want to express my deep appreciation of the privilege of being here. I was sensible of that yesterday and earlier this morning, but I am more acutely sensible of it now since I have had the privilege of listening to the ex-Presidents of this Society, because as one of the younger men in the medical profession it seems to me that to listen to the words of wisdom and experience from the lips of our leaders in years past is something that a young physician ought to set down as one of his most precious memories.

"It has been a great privilege to be here at this praticular meeting, and I assure you that I was in no wise impatient. I am very happy that Dr Work did not accede to the considerate suggestion made by Dr. Stephenson.

"The topic that has been chosen for me is one of considerable moment at this time, and I have tried to summarize the situation as best I can."

Dr. Bauer then read his paper on "Relationships Between the Practicing Physician and the Public Health Worker."[5]

The meeting then adjourned until 1:30 p. m.

The session at 1:30 was given over to Demonstrations by Exhibitors, until 2 o'clock.

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[5]Published in the October, 1936, issue of Colorado Medicine, Page 684 et seq.

Dr. Markley called the Scientific Session to order at 2 o'clock.

Dr. Amesse: "Before beginning the formal program, I would like to present a motion. Two of our most distinguished and valuable members, men who have always contributed to the success of these programs, are lying seriously ill. It would be a fine gesture of this Society to have the Secretary send a message of cheer and confidence and support to Dr. Thomas Stoddard of Pueblo and Dr. Frank W. Kenney of Denver.

"I make such a motion, Mr. President."

Motion seconded by Dr. George Kent and carried.

President Markley: "May I again call your attention to the fact that our commercial exhibitors are deserving of your especial attention? These exhibitors contribute very largely toward paying the expenses of these meetings, and they are not only worthy of your attention, but I think we are under definite obligations to give it to them. Kindly call on our commercial exhibitors.

"The first paper on the afternoon program is entitled 'Septic Complications of Sore Throat,' by Herman I. Laff, M.D., Denver."

Dr. Laff presented his paper. The program continued as follows:

"Medical Treatment of Upper Respiratory Infections," by Dr. Dumont Clark of Denver.

Discussion of the two above papers was opened by Dr. F. R. Spencer, Boulder; continued by Drs. T. E. Carmody, Denver; C. H. Darrow, Denver; Frederic Singer, Pueblo; Kemp G. Cooper, Denver, and was closed by Drs. Laff and Clark.

"Endoscopy; An Aid in Diagnosis," by Dr. E. B. Swerdfeger, Denver; discussed by Drs. Harold L. Hickey, Denver; F. R. Spencer, Boulder; T. E. Carmody, Denver; James P. Rigg, Grand Junction; H. I. Laff, Denver; C. H. Darrow, Denver, and closed by Dr. Swerdfeger.

"Pain and Pain Equivalents in Heart Disease," by Dr. C. T. Burnett, Denver; discussed by Drs. S. W. Schaefer, Colorado Springs; Maurice Katzman, Denver, and closed by Dr. Burnett.

"Normal Standards of Red Blood Cell Values in Colorado," by Dr. E. R. Mugrage, Denver; discussed by Drs. Carl W. Maynard, Pueblo; Philip Hillkowitz, Denver; Maurice Katzman, Denver, and closed by Dr. Mugrage.

The scientific meeting was then adjourned for the day.

President Markley called the scientific meeting to order at 10:00 a. m. Saturday, September 12, 1936. The program proceeded as follows:

"Carcinoma in Clinically Benign Prostatic Hypertrophy," by Dr. George M. Myers, Pueblo; discussed by Drs. John B. Davis, Denver; Philip Hillkowitz, Denver; W. S. Johnston, Pueblo, and closed by Dr. Myers.

"Blood Dyscrasias in Children," by Drs. John W. Amesse and W. W. Barber, Denver; discussed by Drs. Emeric I. Dobos, Denver; J. N. Hall, Denver; E. R. Mugrage, Denver.

"Epiphyseal Injuries," by Dr. George K. Cotton, Denver; discussed by Drs. J. Sims Norman, Pueblo; Kenneth D. A. Allen, Denver; Henry N. Harkins, Chicago, and closed by Dr. Cotton.

President Markley: "It is with great pleasure that I now introduce our guest speaker of the day, Dr. Henry N. Harkins of Chicago, who will address you on 'Surgical Shock From Burns, Freezing, and Similar Traumatic Agents.'"

Dr. Harkins presented his paper.[6]

The meeting then adjourned until 1:30 p. m.

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[6]Published in this issue of Colorado Medicine.

The meeting came to order at 1:30 p. m. for a half hour devoted to demonstrations by exhibitors. The meeting then recessed temporarily so that a special meeting of the Society could be called to order.[7]

The scientific meeting was again called to order by President Markley at 2:15 p. m., following a special meeting of the Society. On motion of Dr. R. E. Holmes, the Executive Secretary was directed to send a telegram of greeting to Dr. William Senger, Past President, who was reported to be ill.

President Markley: "The next order of business is the Report of the Committee on Necrology, by Dr. A. C. McClanahan, Chairman. The members will please stand during the reading of the report."

Report of the Committee on Necrology September 12, 1936

The members of The Colorado State Medical Society who have died since the last report of the Committee on Necrology are:

John Ridlon	Newport, R. I.
Gregory E. Ehrenburg	Spivak, Colo.
May T. Bigelow	Denver, Colo.
Edward C. Bushnell	Denver, Colo.
Leonard Freeman	Denver, Colo.
Otis H. Kelsey	Denver, Colo.
R. R. Lang	Denver, Colo.
Howell T. Pershing	Denver, Colo.
Wm. J. Robb	Denver, Colo.
Robert H. Schroeder	Denver, Colo.
Henry Sewall	Denver, Colo.
Chas. A. Trumbauer	Denver, Colo.
Frank Carroll	Fort Collins, Colo.
Knud Hanson	Grand Junction, Colo.
John J. Winningham	Olathe, Colo.
James O. Hardy	Las Animas, Colo.
Chas. Trueblood	Monte Vista, Colo.
Duane Turner	Steamboat Springs, Colo.

They gladly lived and by their lives enriched the sum of things from which they came and to which they have now returned. They had the gallantry that one must have to live. They had the dignity of service, crowned now by the final dignity of death. No longer have they need of the honors that we might wish to confer upon them, but we have need to honor them, and in that need we who are yet to die salute them.

A. C. McCLANAHAN.
C. B. DYDE.
J. C. W. DAVIS.

President Markley: "Next on the program is a Summary of Actions of the House of Delegates, to be made by the Executive Secretary."

This summary was given by Mr. Sethman.[8]

"Now it is my very pleasant privilege to ask the two immediately preceding Presidents, Dr. King and Dr. Madler, to escort the President-elect, Dr. W. T. H. Baker, to the rostrum."

The assembled delegates stood and applauded Dr. Baker.

"Dr. Baker, will you kindly respond?"

Dr. Baker: "Mr. Chairman, Ladies and Fellow Members of Our Profession: It is a pleasure for me, as well as a duty at the present time, to thank you formally for this honor which has been conferred upon me. I realize that there will be a tremendous amount of work ahead of all the officers of this Society, but again I am reminded of the old story of Aesop's Fables with which you are familiar,—the one in which the father called in his sons and had them try to break a bundle of fagots. They were unable to do so. Then he had them loosen them and they could break each stick separately with ease.

"We are just exactly in that same position. If we stick together we will be a power that will have to be reckoned with, and which will be felt throughout the State and throughout the nation.

"It is my opinion that there never has been a time in the history of Colorado medical organization when there has been as much unity and as much desire on the part of the profession to act together as at present.

"With your cooperation, and with the assistance I know I will have from the other officers of this Society, we will carry on the work of former presidents and officers. We will do it to the very best of our ability, and—we hope—with success. Again I thank you."

President Markley: "I now declare the newly-elected officers, as announced, to be duly installed."[9]

The scientific program was then presented, as follows:

"Hypothyroidism Without Myxedema," by Dr. Jesse W. White, Pueblo.

"Hypothyroidism," by Drs. Paul J. Connor and F. Julian Maier, Denver.

The above two papers were discussed by Drs. C. F. Kemper, Denver; R. B. Weiler, Del Norte; C. F. Hegner, Denver; E. G. Billings, Denver, and closed by Drs. White and Connor in turn.

"Intrathoracic Goiter," by Drs. George B. Kent and Kenneth C. Sawyer, Denver; discussed by Drs. C. F. Hegner, Denver; Maurice Katzman, Denver; C. F. Kemper, Denver; R. W. Arndt, Denver; C. Lee Wilmoth, Denver, and closed by Dr. Kent.

"The Anxiety Syndrome; an Every-day Problem of General Medicine Frequently Confused with Hyperthyroidism," by Dr. E. G. Billings, Denver; discussion which had been prepared for the occasion by Dr. F. G. Ebaugh, Denver, was read in his absence by Dr. J. R. Jaeger; discussion was continued by Dr. J. R. Jaeger, Denver; J. J. Waring, Denver; W. B. Yegge, Denver; and closed by Dr. Billings.

"Clinical and Experimental Investigations of Protamine Insulinate at the Colorado General Hospital," by Drs. J. J. Waring, B. B. Longwell, and Abe Ravin, Denver.[10] Dr. Waring presented the paper. Dr. Longwell presented illustrative slides. Dr. Robert C. Lewis, Denver, opened the discussion, which was closed by Dr. Waring.

President Markley thereupon declared the Sixty-sixth Annual Session of the Society adjourned, without day.

REGISTRATION STATISTICS

Sixty-sixth Annual Session, 1936

Members	244
Guests and non-members, M.D.	26
Exhibitors	35
Medical students, nurses, lay guests	38
Woman's Auxiliary	96
TOTAL	439

The foregoing minutes of the General Meetings of the Sixty-sixth Annual Session, September 10, 11, 12, 1936, at the Hotel Colorado, Glenwood Springs, Colorado, are hereby respectfully submitted to the Society.

HARVEY T. SETHMAN,
Executive Secretary.

[7]See Minutes, Special Meeting of The Colorado State Medical Society, published in the November, 1936, issue of Colorado Medicine, Page 811 et seq.

[8]See Minutes of the House of Delegates, published in the November, 1936, issue of Colorado Medicine, Page 774 et seq.

[9]See election of officers, November, 1936, issue of Colorado Medicine, Page 807-808.

[10]Published in the November, 1936, issue of Colorado Medicine, Page 757 et seq.

MEDICAL SOCIETIES

EL PASO COUNTY

A symposium on "The Clinical Diagnosis of Early Cancer," sponsored by the Cancer Committee of the State Medical Society, formed the program of the November meeting of the El Paso County Medical Society, held November 18 at the El Paso Club, Colorado Springs. A subscription dinner preceded the meeting. The symposium was delivered by a team of Denver physicians composed of Drs. George P. Lingenfelter, Harold R. McKeen, Eugene S. Auer and Paul R. Weeks.

* * *

FREMONT COUNTY

"Herniotomy as Complicated by Latent Gonorrheal Infection," an illustrated talk with case reports and lantern slides, was presented before the Fremont County Medical Society at its regular meeting October 26 by Dr. Raynor E. Holmes, Sr., of Canon City.

A. BEE,
Secretary.

* * *

LAS ANIMAS COUNTY

Organization problems relating to the State Medical Society formed the program subjects for the October meeting of the Las Animas County Medical Society, held at Mt. San Rafael Hospital, Trinidad, Saturday evening, October 31. Dr. A. J. Markley, Denver, president of the State Society, was the principal speaker, discussing "The Problem of Controlling Syphilis in Colorado." Dr. W. T. H. Baker, Pueblo, President-elect of the State Society, talked on "The Business Side of Medical Practice," Dr. Gerrit Heusinkveld, Chairman of the Public Policy Committee, talked on coming legislative problems, and Mr. Harvey T. Sethman, Executive Secretary, presented current activities of the State Society, including progress with the Colorado Medical Foundation and with the Rocky Mountain Medical Conference. Preceding the meeting, the Sisters of the Hospital served a delightful Halloween dinner to the Medical Society and its guests.

* * *

MESA COUNTY

Dr. James Rigg of Grand Junction spoke on "Tracheotomy—Emergency and Permanent," at the regular meeting of the Mesa County Medical Society held November 17 at the La Courte Hotel, Grand Junction. At this meeting Dr. John B. Crouch of Colorado Springs reviewed the Mesa County Tuberculosis Clinic material.

FRANK J. McDONOUGH,
Secretary.

* * *

NORTHEAST COLORADO

Seventeen members of the Society took part in a dinner meeting on November 12 at Sterling to hear the symposium on "Clinical Diagnosis of Early Cancer," given by a team representing the Committee on Cancer Education of the State Society. The team included Drs. J. R. Plank, C. B. Kingry, G. P. Lingenfelter, and Sanford Withers, all of Denver. At this meeting the society voted to cooperate financially in the support of the Rocky Mountain Medical Conference for next Summer.

E. P. HUMMEL,
Secretary.

PUEBLO COUNTY

Dr. F. M. Heller presented "Recent Advances" in Infectious Diseases" at the first November meeting of the Pueblo County Medical Society, held November 3 at the Vail Hotel, Pueblo.

Dr. Herman Schwatt, Director of the J.C.R.S. Sanatorium, Spivak, Colo., addressed the Pueblo County Medical Society on "Collapse Therapy in Tuberculosis" at the Society's November 17 meeting, held at the Vail Hotel. A dinner preceded the meeting.

J. W. WHITE,
Secretary.

WOMAN'S AUXILIARY

DENVER COUNTY

Mrs. Hermann Stein and Mrs. Gerald Frumess entertained twenty guests at a book review and tea Wednesday, November 18, at the home of Mrs. Frumess for the benefit of the Woman's Auxiliary to the Denver County Medical Society. Mrs. Haynes J. Freeland was hostess to twenty guests at a benefit card party at her home on Wednesday, November 18.

Miss Louise Mullins gave a play reading at the Denver General Nurses Home for the members of the Auxiliary and guests on Thursday, November 19. Miss Mullins' dramatization of "That Was Balzac," by George Middleton, was enjoyed by more than 100 ladies.

The philanthropic committee set aside this week for the raising of money for the philanthropic enterprises of the Auxiliary. This includes the Physicians' Benevolent Fund, the annual gift to the loan fund of the medical school, an annual gift to the Visiting Nurses Association, and other minor activities.

MRS. ARNOLD MINNIG.

EL PASO COUNTY AUXILIARY ORGANIZED

The State Organization Chairman, Mrs. George P. Lingenfelter, accompanied by the State President, Mrs. John A. McCaw, Denver, went to Colorado Springs Oct. 30. Mrs. E. B. Liddle entertained the visiting officers at luncheon at The Broadmoor. Afterwards an Auxiliary was organized at Mrs. Liddle's home, with seventeen doctors' wives signed up as members.

PUEBLO COUNTY

Mrs. W. T. H. Baker and Mrs. J. B. Farley were hostesses at a luncheon given for the Auxiliary to the Pueblo County Medical Society, Tuesday, October 6, at the home of Mrs. Baker. Following the luncheon a short business meeting was held and the members sewed for the Needlework Guild. Those attending were Mrs. E. H. Corry, Mrs. E. D. Burkhard, Mrs. R. B. Crozier, Mrs. C. W. Maynard, Mrs. J. J. McDonnell, Mrs. F. M. Heller, Mrs. C. E. Earnest, Mrs. Fritz Lassen, Mrs. Harold T. Low, Mrs. J. S. Norman, Mrs. J. J. Pattee, Mrs. Wilson J. Troup, Mrs. John G. Wolf, Mrs. J. F. Fowler, Mrs. A. W. Glathar, Mrs. George Unfug, Mrs. C. W. Streamer, Mrs. E. H. Steinhardt, Mrs. William Senger, Mrs. R. C. Robe, Mrs. F. A. Luqueer, Mrs. Theodore E. Wade, Mrs. George Myers, Mrs. A. Merriman, Mrs. C. N. Caldwell, Mrs. W. F. Rich, Mrs. L. L. Ward and Mrs. J. F. Snedec.

MRS. E. H. STEINHARDT,
114 W. Grant Ave. Secretary.

Editorial

Yeast Growing In the Throat

Three interesting cases of this condition leads one to the conclusion that although not common they are interesting and perhaps not always recognized. The basis, in most cases, is a growth of leptothrix on which the yeast cells attach themselves like leaves on the limbs of a tree. Clinically they resemble porcupine quills sticking out about three-eighths of an inch from the tonsil crypts, but unlike the porcupine quill they are not dark on the end but perfectly white in their entire length. They may also be likened to flat wooden matches as some of these growths are as wide as such a match.

In these three cases the tonsils seem to be the starting point but a few patches were found on the posterior pharynx and pillars. It is quite difficult to remove a complete growth for examination. However, when placed in glycerine and a mild alkali, the mass may be separated and under the low power of the microscope we find granules containing the rod-like cells of the leptothrix fungus. Staining with methylene blue brings out colored and uncolored parts of these threads while the characteristic starch reaction may be brought out by the use of Lugol's solution. At this point the yeast cells come into the picture. Attaching themselves to the fungi they grow like the leaves on a vine.

The symptoms complained of were a prickling sensation with some cough and slight difficulty in swallowing. The tonsils appear slightly swollen and the uvula and soft palate congested.

So far as we can find out there is no danger to life from this condition, but it is most difficult to treat. All functional disorders should be corrected. The dentist should be called upon to put the teeth in good condition before the physician starts his attack. Practically all the astringents and antiseptics in the pharmacopeia have been tried. Strong caustics like trichloracetic acid, silver nitrate in strong solutions, different stains, and so forth, have failed in our hands. Saturated potassium iodide taken in increasing amounts up to full doses and the same mixture or combined with glycerin applied locally is the most efficient treatment in the medical line that we have used.

However, the complete removal of tonsils and the use of the electric cautery to the posterior pharynx clears up the case in a short time. There has not been the slightest reoccurrence in these cases where the tonsils were removed and recovery is as rapid as in ordinary tonsilectomies.

When you see "white matches" growing in the tonsils think of mycosis, of the group schizomycosis, and then yeast.

E. W.

Extrasystoles may offer valuable evidence of myocardial damage or strain, and their discovery should always lead to a careful cardiovascular examination and to attempt to determine their cause.—The American Heart Journal.

NEPHROPTOSIS*

J. C. BUNTEN, M.D.
CHEYENNE

Renal ptosis has been mentioned for centuries. It was mentioned by Mesue of Venice in 1497. In 1846 Rayer presented seven cases. In 1864 Dietl described what is known as "Dietl's Crisis." In 1870 Gilmore and in 1878 Martin did nephrectomies for "wandering kidneys." In 1881 Hahn of Berlin did a suspension of the kidney. Following this there was an era of over-enthusiasm for the procedure. Nephropexies were done on slightest provocation. The inevitable result of over-enthusiasm was failure to cure the symptoms. The direct causes of many of these failures were incorrect diagnosis and lack of the definite indications for the surgery. Thus, as usual, the procedure was forgotten for a period of time. Within the last decade surgeons have again taken it up and realize that it has a definite value. Perhaps the greater precision in diagnosis of the last few years has helped, and now we operate only those cases which have a definite indication for surgery.

The kidney ascends with expiration and descends with inspiration. Normally only the lower pole of the kidney is felt. Nephroptosis is said to exist in three degrees:

1. The lower half of the kidney is palpable.
2. The greater part of the whole kidney is palpable. Movable kidney.
3. The whole kidney descends below the border of the ribs. This is called floating kidney.

In ptosis three facts are outstanding:

1. Predominance in woman.
2. Predominance on the right side.
3. Predominance between the ages of 20 and 50 years.

The causes of ptosis may be classified according to:

1. Primary predisposing cause: The shape of the lumbar recess.
2. Secondary predisposing causes: Pregnancy, emaciation, enteroptosis.

Exciting causes: In considering the shape of the lumbar recess we find that it is longer in women and also that the pelvis is wider. Tall thin people are more often affected than short heavy set people.

Pregnancy may be a cause of dispute, but certainly repeated pregnancies have a tendency to cause relaxation of the abdominal wall.

Emaciation may cause nephroptosis by absorption of the perirenal fat.

Drooping, flat-chested, round shouldered attitude compresses the lower ribs and may cause ptosis. Constant stooping and horseback riding may also predispose to ptosis.

Under exciting causes, acute trauma, such as falls, kicks and blows, is an open question. I have seen the kidney torn and ruptured from blows, yet there was no ptosis.

We often see patients who have been treated for a long time, for a long list of symptoms, such as indigestion, loss of weight, abdominal pains and neurasthenia. Many of these cases have had from one to three abdominal operations with no relief. After losing the appendix, ovaries, tubes and even the uterus they finally have an examination of the urinary tract. Would it not be much better for both patient and doctor, in all cases where symptoms are a little vague and diagnosis uncertain, to have a urologic study made before any surgery is done? If the urologic study is negative, then we have eliminated that source of error.

The function of the kidney is excretion, and whenever any condition arises which interferes with that function, a back pressure is created and retention of urine in the renal pelvis and calyces occurs. Gradually a hydronephrosis develops, which in turn produces atrophy of renal structure and interstitial degeneration. The obstruction may be of the ureter due to kinking, bands, or vessels causing pressure. Impairment of urinary flow produces various types of pain, localized and referred, gastro-intestinal symptoms and neurologic disturbances. Pain is the most prominent symptom. It may be

*Read before the Wyoming State Medical Society, Cody, Wyoming, August 23, 1936.

referred along the course of the ureter, to the bladder, external genitalia, or thigh. It may be sharp and colicky or may be dull and aching. From one series of cases, pain referable to the renal area occurred in 85 per cent; gastric disturbances were present in 33 per cent, and urinary symptoms were noted in 75 per cent. Renal colic occurred in 11 per cent. Neurologic symptoms were found in 18 per cent. In torsion of renal vessels or of the ureter, sudden agonizing pain is felt in the loin and upper lateral quadrant, and is called kidney colic or Dietl's crisis. Nausea, vomiting, fever and shock may accompany the attack. The attack may last from a few minutes to days. Mild cases of ptosis suffer constant dull ache in the kidney region. A feeling of weight or dragging may be felt on standing or walking. As many ptosed kidneys are infected, it may be a cause of pyelitis. The symptoms are indefinite and it is necessary to perform the various urinary tests and make pyelograms to confirm the diagnosis. In regard to the diagnosis, I will merely state that a complete urologic study should be made—complete urinalysis, function tests on both kidneys, N. P. N. test, and check for tuberculous disease. While the intravenous urogram is valuable and easy to do, I believe every case where possible should also have a retrograde pyelogram, as it gives more definite information. Of course in every case we must take the pyelogram in both horizontal and vertical positions.

The treatment comes in one of two groups:

1. Palliative treatment.
   (a) To remedy digestive and nutritional derangement.
   (b) To correct position and avoid over-fatigue.
   (c) To improve general vitality and combat psychasthenia by overfeeding, massage, hygiene, etc.
   (d) To apply an abdominal support.

Proper position is most important. The patient must learn to stand and walk with the head up and the chest out. In the use of a belt, an effort must be made to support all the abdominal viscera, not the kidney only. It is not reasonable to think that any particular pad will support the kidney, so better leave out the pad and support the abdominal contents en masse. The straight front corset, when applied in the recumbent position, is perhaps the best.

2. Surgical treatment: As before stated, a complete urological study must have been made and a definite indication for the operation found. The reason for the early day failures was that the definite indication was not found.

The technic used varies somewhat. Most men use the sutures after the method of Kelly. However, recently a number have resorted to the use of fascia strips. David Melen of Rochester, N. Y., and J. E. Strode of Honolulu have both been using the fascia. Personally I prefer the use of the fascia and have used the technic of Stode with the exception that, where he uses only one strip of fascia, I use two. In this way I use a double hammock type of suspension. The kidney is exposed by the usual lumbar incision. It is freed of all perirenal tissue down to the capsule and drawn into its normal position. A strip of fascia lata, from 8 to 10 inches long and ¾ inch wide, and a second strip 10 to 12 inches long and ¾ inch wide, are removed from the leg. The long strip is then passed around the lower pole of the kidney beneath the capsule. I use two sutures to hold the strip in place, although Strode doesn't use any. Next, I pass the second strip under the upper pole in like manner. The kidney is now placed in position and the upper pole strip is carried over the last rib and anchored. The lower pole strip is passed through the tissues at the upper end of the wound and anchored across the wound after the muscles have been closed. It is also well to remove a piece of the capsule over the convex surface of the kidney, thus giving an area far adhesions to form. The wound is closed in the usual manner. The results so far have been good. This double strip technic is believed to be original, as I had not seen any report of its use prior to my first case at the U. S. Veterans Hospital, Cheyenne, Wyo., in January, 1935.

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Annual Meeting

THE Annual Meeting of the Association on November 4, while not attended by a large membership, was one of the most instructive ever held. The program was composed of subjects of great interest to Association members. The papers presented will appear in this column.

Lights

NO more broken down floor lamps, dusty and torn lamp shades, trailing wires, or paper sack night lamps for this hospital. Combining the most desirable features of a number of different types of lamps, one hospital superintendent has designed and had manufactured, and at a reasonable price, a floor lamp which meets all hospital requirements.

A sturdy base prevents tipping, a sliding standard permits height adjustment, a flexible gooseneck allows the ray to be directed in any direction, and a neat metal bell shade does away with spreading rays, torn shades, and makeshift dimmers.

Each room in the hospital has been equipped with the new lamp. Patients have been so delighted with its appearance and practicability that many of them, on leaving the hospital, have purchased similar lamps for home use.

President's Report

THIS is the thirteenth annual report of the President of the Colorado Hospital Association. This association was first organized in 1900 but the first annual convention was held in 1924. For a number of years there was little activity, mostly yearly meetings of a few interested executives. About 1920 Dr. Holden became president and immediately started a program of expansion, so that the membership was large enough by 1924 to have a convention. With this meeting enthusiasm mounted and the Association grew.

What was in the minds of the organizers of the Colorado Hospital Association? Let us turn to the statement in the Constitution and By-Laws, "The object of this Association shall be to promote the welfare of the people of the State of Colorado, in so far as it may be done by the development of hospitals and dispensaries of the state, in number and location; in service rendered to patients; in erection of buildings; in securing the best equipment and in promoting general efficiency of operation by securing cooperation and assistance in this work from all other organizations of similar purpose, and in all ways possible to advance the interests of all medical service institutions."

I wish to emphasize the last part of this declaration of purpose "by securing cooperation and assistance in this work from all other organizations of similar purpose, and in all ways possible to advance the interests of all medical institutions." If the founders of this association felt this need, how much more do we today need the cooperation and help of each other. The past few years have seen us plunged from the mountain tops of happiness to the valleys of despair. We have had to learn new methods of doing things; we have been drawn closer together by bonds of necessity, have learned to work together, to understand each other better. We are beginning to see that the problems of one hospital are, in general, the problems of all hospitals.

For some time it seems the hospital ex-

for pernicious anemia . . .

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Extensive neurologic involvement frequently requires intensive therapy over a long period of time to bring about improvement. In the presence of marked nervous system changes a large amount of active substance is indicated, far in excess of that required to bring about a complete blood remission. Infection and advanced age usually add to the requirements for active material.

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ecutives and the nursing profession have not seen eye to eye on many nursing problems. Much of this was the outgrowth of a lack of understanding on the part of each to the other. With this in mind a joint convention with the Colorado Nurses Association was held in the spring. This convention attracted an attendance of about 500 and made it possible to invite fifteen exhibitors to display their wares. I believe the joint convention was successful from every angle.

The passage by Congress of the Social Security Act has placed the Government very firmly in the Public Health field. One of the first programs to be set up is that of the Maternal and Child Welfare work. Last spring the Secretary of the State Board of Health, in a talk before the members of the Denver Council of Hospitals, gave them to understand that the per diem rate to be paid for the care of crippled children would be $5.00 per day, this rate to include everything necessary for the care of these children. Later we were informed this rate was too high and that a rate of $2.50 per day including everything would be the established price.

Your trustees did not feel this rate was adequate to meet the cost of caring for crippled children. A meeting was called and the matter discussed. Your trustees had no authority to bind any member hospital, but it was felt that it might confer with representatives from the State Board of Public Health and try to work out a more equitable rate for the benefit of its member hospitals and to recommend the same to them.

After several conferences a rate was approved, which has been recommended to the member hospitals. This new schedule sets up a basic rate of $3.00 per day, which includes room, board, general floor nursing, ordinary medicines, dressings, anesthesia by house anesthetist, and operating room service. Special medicines, serums, biologics, braces and appliances will be charged extra to the State Board of Health at invoice price. X-ray, casts, physiotherapy, hydrotherapy, and other special treatments to be charged according to a fee schedule to be jointly determined by a representative from the Colorado Hospital Association and the State Board of Health. Mr. Walter represented the Association and a schedule is now being completed. These recommendations are to cover the period ending June 30, 1937. This schedule, except for the extra charges for special services, has been approved by the State Board of Health, and it now remains with our member hospitals to accept patients as they wish under this schedule. I trust the Association will approve of what the trustees have done for the welfare of its members.

The Maternal and Child Welfare work under the Social Security Act is only a beginning. It requires no great imagination to see that public health service in various forms is growing. We have already the State Compensation Act and now the Social Security Act. There are other features to this act that are of interest to our hospitals.

Through the American Hospital Association and the National Catholic Welfare Conference a provision was incorporated in the act that persons receiving benefits under the act can have the services of private hospitals. This, however, is conditioned on state laws. The state governments write the laws and make the rules and regulations and the administration of the act is in the hands of the local government. The national act provides that services of private hospitals are accessible for children, the blind, the aged, and mothers, but only if the state law so provides. Many opportunities are thus open to our hospitals, but—I want to emphasize this.

It is important that our hospitals interest themselves in two things. One is that our state laws be so constructed that they shall be generous to the recipients and not discriminate against private hospitals. Another is that competent administrators be chosen who will interpret the laws in a just manner. The greatest way for us to assist in these two things is to get into the thing early, in writing the law, in advising on appointments, in setting up rules and regulations; in a word, to offer our services to assist in setting up and in directing these far-reaching acts. This means we will have

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(T. Wingate Todd, Jour. Home. Ec., Dec., 1934)

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★ *Proc. Soc. Exp. Biol. and Med., 1934, 32, 241-245*
Laryngoscope, Feb. 1935, Vol. XLV, No. 2, 149-154
N. Y. State Jour. Med., June 1935, Vol. 35, No. 11
Arch. Otolaryngology, Mar. 1936, Vol. 23, No. 3, 306-309

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to cooperate with each other, with the state, and with our allied professions.

Recently I received a letter from Isabel M. Stewart, Chairman of the Central Curriculum Committee, and with it a pamphlet entitled, "Problems of Curriculum Administration." She asked that I, together with the President of the Colorado State League of Nursing Education, appoint chairmen of groups composed of Nurses, hospitals, and lay people to discuss this problem. I have refrained from making any appointments, leaving it for my successor to do so.

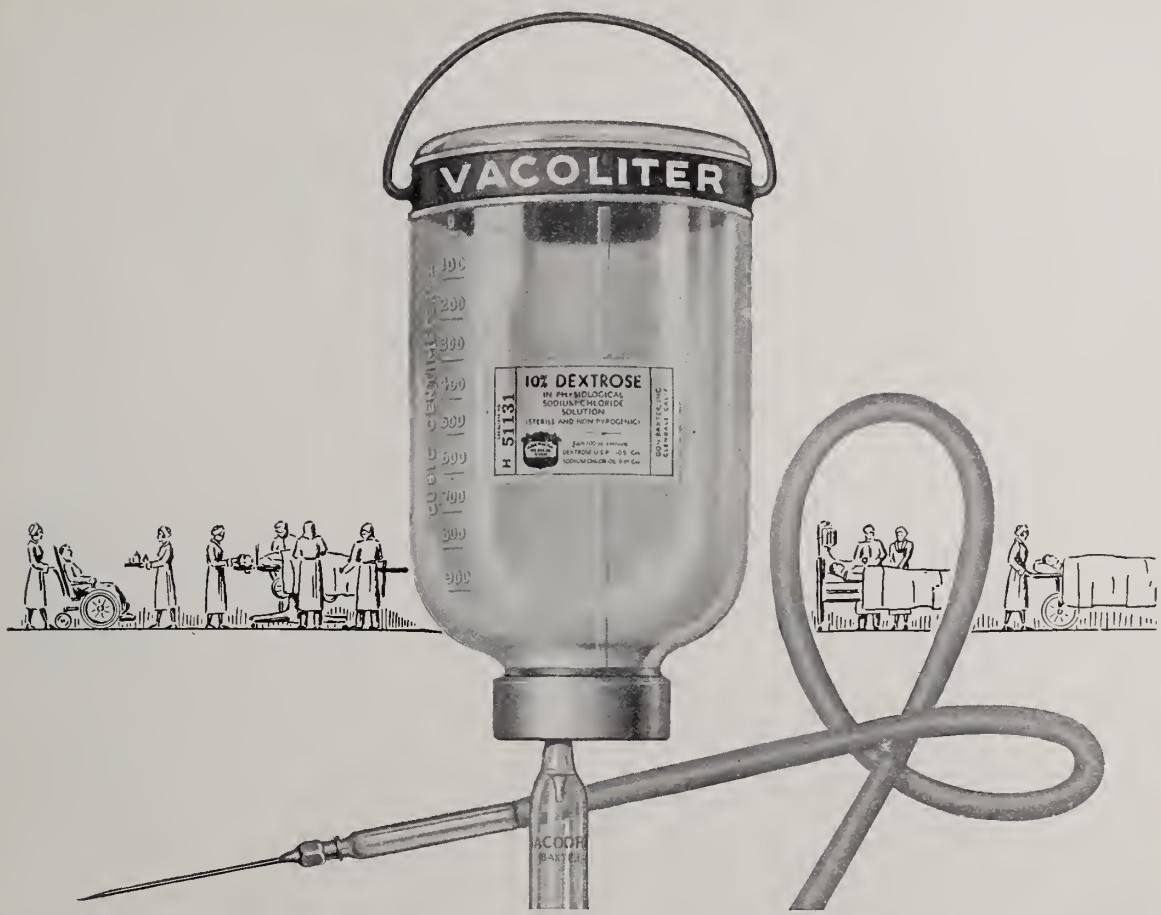
This brings to our attention the new curriculum and all it implies. There is no quarrel with the nursing profession in trying to raise the standards of its profession. If the hospital executive is slow to accept this new plan it must be remembered that he is responsible for the preservation of the hospital service in his institution. Nursing education must go forward, but not so rapidly that it deprives us of sufficient nurses to give our patients good nursing service, nor to deprive the smaller hospitals of the necessary nursing personnel. I trust we will approach the study of this new curriculum with open minds.

Our hospitals must readjust and improve our relations with the public. We are facing new and far-reaching problems. We must work together cooperatively and not competitively. We must develop plans and procedures with government agencies.

New laws will continually be formulated and presented to our legislatures. These must be closely scrutinized and every effort made to eliminate those bills inimical to the welfare and safety of our institutions. We must sponsor bills that will lift some of the burdens the hospitals are now carrying. Our legislative committee must be ever alert and ready to work with other agencies to promote better hospital facilities and service and secure equitable compensation for services rendered.

We are in a new era. Events are moving rapidly. Eternal vigilance is the price we must pay for the safety and welfare of our private hospitals.

WALTER G. CHRISTIE.

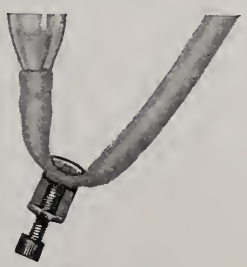


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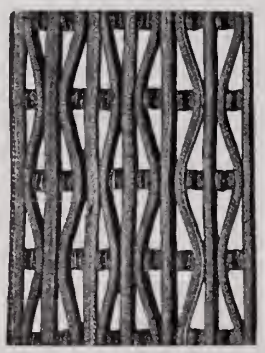
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BOOK REVIEWS

Books Purchased From the Colorado State Medical Society Fund, November 1, 1936

International Committee for the Study of Infantile Paralysis. Poliomyelitis. Baltimore, Williams & Wilkins Co., 1932.

Lewis, Sir Thomas. Vascular Disorders of the Limbs. N. Y., Macmillan, 1936.

Falk, I. S. Security Against Sickness. Garden City, Doubleday, Doran & Co., 1936.

Theory and Practice of Psychiatry. By William S. Sadle, M.D., Chief Psychiatrist and Director, The Chicago Institute of Research and Diagnosis; Consulting Psychiatrist to Columbus Hospital; Fellow of the American Psychiatric Association; Member of the American Psychopathological Association; Author of "The Mind at Mischief," "Piloting Modern Youth," "Worry and Nervousness," "Physiology of Faith and Fear," "The Quest for Happiness." Formerly Professor at the Postgraduate Medical School of Chicago; Fellow of the American Medical Association; Fellow of the American Association for the Advancement of Science. A Psychiatric Textbook for Neuropsychiatric Specialists and General Practitioners of Medicine. A Reference Handbook for Psychologists, Sociologists, Pastors, and Other Professional Readers. St. Louis: The C. V. Mosby Company. 1936. Price, $10.00.

The attempt is made to group into this one volume all of the theory and practice of psychiatry existant.

The volume will be useful for quick reference work by teachers and social workers.

Its greatest merit is that it maintains a common sense attitude; theory is held to the light but not blindly followed.

J. P. HILTON.

Research in Dementia Precox (Past attainments, present trends and future possibilities). By Nolan D. C. Lewis, M.D., Professor of Neurology, Columbia University; Associate Medical Director, Neurological Institute of New York; Field Representative and Coordinator of Research in Dementia Precox. Founded by the Northern Masonic Jurisdiction of the Scottish Rite. 1936.

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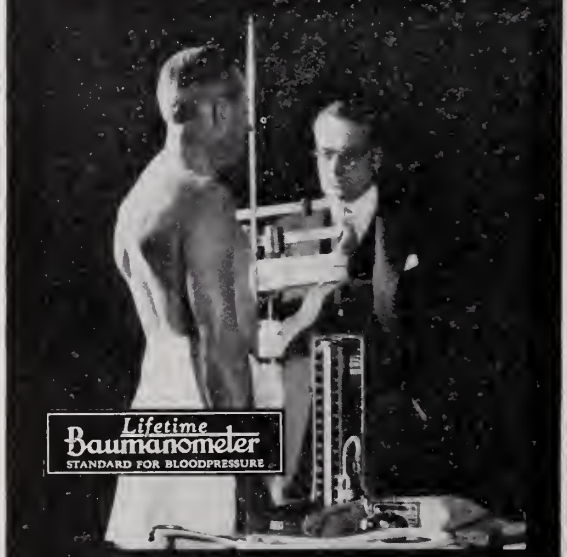
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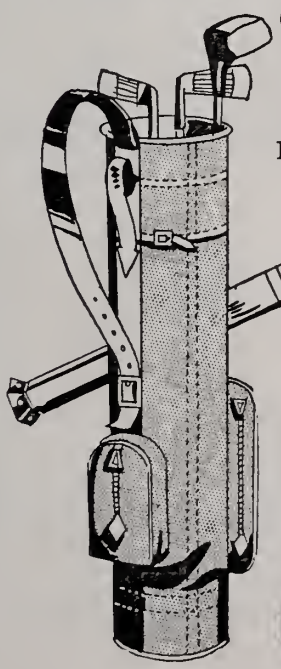
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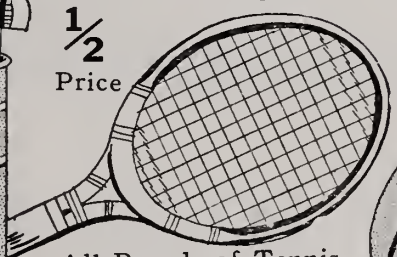
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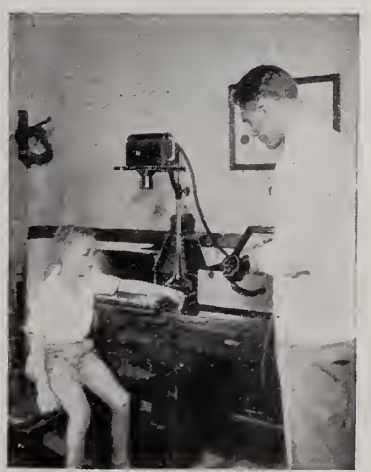
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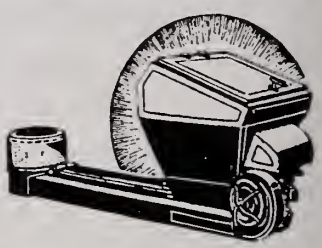
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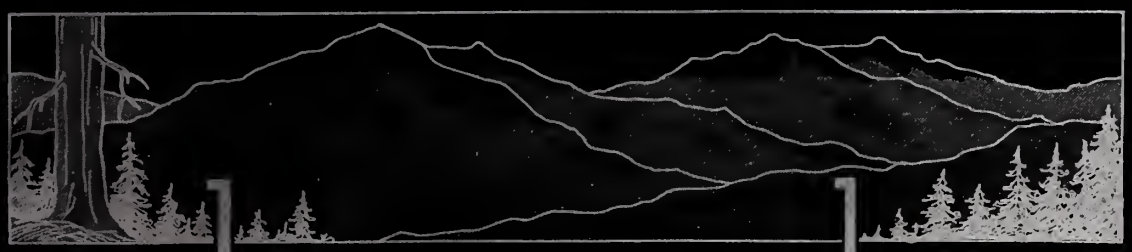
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Ruby, J. C. 908
Seleman-Ehret Photo. Engraving Co. 912
Shirley Garage 928
Smallwood Printing Co. 914
Sonotone 916
Squibb, E. R. & Sons 865
Sun Book Co. 920
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Weiss, Paul 918
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Woodcroft Hospital 929
Zimmer Splint Service 908



Colorado Medicine

DIRECTORY of MEMBERS

Supplement to Issue of

January
1936

Volume 33
Number 1

Official Journal of
THE COLORADO STATE MEDICAL SOCIETY
THE WYOMING STATE MEDICAL SOCIETY
THE COLORADO HOSPITAL ASSOCIATION

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COLORADO STATE MEDICAL SOCIETY

Executive Office:
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Harvey T. Sethman,
Executive Secretary

December 28, 1935

Mountain States Telephone & Telegraph Co.,
Denver, Colorado.

Gentlemen:

We wish to take this opportunity to thank you for the generous cooperation which has made possible our publication of an accurate Directory of the members of The Colorado State Medical Society.

Your part in this work involved the use of your long-distance lines to verify hundreds of addresses and telephone numbers throughout the State. We trust that your efforts will be repaid by the increased inter-communication between physicians that our Directory is designed to encourage.

With cordial good wishes for a prosperous 1936;

Sincerely,

Harvey T. Sethman

Executive Secretay.

HTS:3

Membership Directory, Colorado State Medical Society

*Corrected to December 31, 1935**

AGUILAR, COLORADO

Name	Address	Telephone	Society
Merritt, W. A.	Aguilar	Aguilar 6	Las Animas

AKRON, COLORADO

Adams, W. A.	Akron	Akron 43-W	Washington-Yuma
Crawford, M. L.	Akron	Akron 16-W	Washington-Yuma

ALAMOSA, COLORADO

Anderson, Sidney	First State Bank Bldg.	Alamosa 311	San Luis Valley
Byrn, Howard W.	Legion Bldg.	Alamosa 627	San Luis Valley
Davies, John D.	Alamosa	Alamosa 545	San Luis Valley
Davlin, C. A.	MacDonald Bldg.	Alamosa 75	San Luis Valley
Day, R. J.	Legion Bldg.	Alamosa 627	San Luis Valley
Dorsey, C. W.	First State Bank Bldg.	Alamosa 311	San Luis Valley
Herriman, L. L.	First State Bank Bldg.	Alamosa 46	San Luis Valley
Howell, T. F.	Alamosa	Alamosa 81	San Luis Valley
Hurley, J. R.	Alamosa	Alamosa 27	San Luis Valley
Rupert, J. K.	Elks Bldg.	Alamosa 22	San Luis Valley
Stong, E. S.	Alamosa	Alamosa 72	San Luis Valley

ANTONITO, COLORADO

Close, W. D.	Antonito	Antonito 5	San Luis Valley
Logan, R. W.	Antonito	Antonito	Garfield

ARRIBA, COLORADO

Keller, C. J.	Arriba	Arriba 14	Kit Carson

ARVADA, COLORADO

Fee, Edward P.	Arvada	Arvada 177	Clear Creek Valley
Foster, E. L.	Arvada	Arvada 24	Clear Creek Valley
Thorn, T. R.	Arvada	Arvada 216	Clear Creek Valley

ASPEN, COLORADO

Twining, W. H.	Aspen	Aspen 83	Garfield

AULT, COLORADO

Anderson, A.	Ault	Ault 58	Weld
McCain, A. C.	Ault	Ault 1-W	Weld

AURORA, COLORADO

Shipman, F. M.	Aurora	Aurora 96-J	Adams
Webb, M. L.	Aurora	Aurora 28	Arapahoe

AUSTIN, COLORADO

Loops, W. A.	Austin	Delta 155R11	Delta

BERTHOUD, COLORADO

Hardesty, W. B.	Berthoud	Berthoud 48	Larimer
Howell, J. D.	Berthoud	Berthoud 55	Larimer
McCarty, Helen F.	Berthoud	Berthoud 16J3	Larimer

BLANCA, COLORADO

Johnson, Delmer E.	Blanca	Blanca 27	San Luis Valley

BONANZA, COLORADO

Kortright, S. E.	Bonanza	Saguache 115J	San Luis Valley

BOONE, COLORADO

Berg, L. E.	Boone	Pueblo 116J2	Pueblo

BOULDER, COLORADO

Alexander, Harry A.	First National Bank	Boulder 164	Boulder
Bonham, C. D.	Physicians Bldg	Boulder 50-W	Boulder
Elliott, L. E.	Boulder	Boulder 2651	Boulder
Farrington, F. H.	Mereantile Bank Bldg.	Boulder 246	Boulder
Farrington, Paul R.	Mercantile Bank Bldg.	Boulder 246	Boulder
Fischer, V. B.	Mercantile Bank Bldg.	Boulder 641-W	Boulder
Gilbert, Howard P.	2111 Fourteenth Street	Boulder 104	Boulder
Gilbert, O. M.	Physicians Bldg.	Boulder 104	Boulder
Gilbert, W. M.	Physicians Bldg.	Boulder 104	Boulder
Gillaspie, John D.	First National Bank	Boulder 82-W	Boulder
Graf, Carl H.	Physicians Bldg.	Boulder 232	Boulder
Green, H. A.	Boulder-Colorado Sanitarium	Boulder 1800	Boulder
Hartzell, H. W.	Boulder-Colorado Sanitarium	Boulder 1800	Boulder
Heuston, H. H.	First National Bank Bldg.	Boulder 27-W	Boulder
Hillyer, E C.	Mercantile Bank Bldg.	Boulder 673	Boulder

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BOULDER (Continued)

Name	Address	Telephone	Society
Klopfenstein, Fred C.	Boulder-Colorado Sanitarium	Boulder 1800	Boulder
McCabe, F. G.	764 15th St.	Boulder 383-W	Boulder
Muenzinger, Florence W.	963 7th St.	Boulder 1240-J	Boulder
Nethery, Robert D.	Boulder-Colorado Sanitarium	Boulder 1800	Boulder
Nuttall, Orville T.	1453 12th St.	Boulder 885	Boulder
Reed, W. K.	Physicians Bldg.	Boulder 1848-W	Boulder
Rockwell, Orville	Boulder-Colorado Sanitarium	Boulder 1800	Boulder
Spencer, F. R.	Physiclans Bldg.	Boulder 22	Boulder

BRIGHTON, COLORADO

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McCann, J. C.	Brighton	Brighton 102W	Adams
Peer, W. F.	Brighton	Brighton 104W	Adams
Stucki, J C.	Brighton	Brighton 450	Adams
Wells, J. W.	Brighton	Brighton 313	Adams

BRIGGSDALE, COLORADO

Spangler, M. H.	Briggsdale		Weld

BROADMOOR, COLORADO

Joy, Homer T.	Broadmoor	Colorado Springs, Main 1537	El Paso

BRUSH, COLORADO

Eakins, C. F.	Brush	Brush 62J	Morgan
Hilderbrand, P. R.	Brush	Brush 50	Morgan
Lusby, A. C.	Brush	Brush 6J	Morgan
Lusby, L. C.	Brush	Brush 6J	Morgan

BUENA VISTA, COLORADO

Close, T H.	Buena Vista	Buena Vista 9	Caffee

BURLINGTON, COLORADO

Robinson, M. E.	Burlington	Burlington 23	Kit Carson

BYERS, COLORADO

Lorimer, Hugh F.	Byers	Byers 13	Arapahoe

CALHAN, COLORADO

Chandler, Gilbert B.	Calhan	Calhan 10	El Paso

CANON CITY, COLORADO

Bee, Archie	117 Macon Ave.	Canon City 70	Fremont
Graves, C. H.	602 Macon Ave.	Canon City 320J	Fremont
Hinshaw, J. D.	116 No. 7th St.	Canon City 142	Fremont
Holmes, R. E.	5th and Greenwood Ave.	Canon City 30J	Fremont
Holmes, R E., Jr.	Postoffice Apts.	Canon City 88W	Fremont
Lynch, E. B.	Apex Bldg.	Canon City 388W	Fremont
Maxwell, J. G.	Apex Bldg.	Canon City 34J	Fremont
Shoun, D A.	Apex Bldg.	Canon City 475	Fremont
Shoun, J. G.	Apex Bldg.	Canon City 475	Fremont
Wade, Pitt A.	1106 Park Ave.	Canon City 51	Fremont
Webb, E. C.	Apex Bldg.	Canon City 102	Fremont
Wyatt, Kon	Postoffice Bldg.	Canon City 286J	Fremont

CARBONDALE, COLORADO

Tubbs, W. R.	Carbondale	Carbondale 35	Garfield

CASTLE ROCK, COLORADO

Palmer, W. A.	Castle Rock	Castle Rock 27J	Arapahoe

CEDAREDGE, COLORADO

Aust, T. H.	Cedaredge	Cedaredge	Delta
Pounden, J C.	Cedaredge	Cedaredge	Delta

CENTER, COLORADO

Carmichael, Earle K.	Center	Center 4-W	San Luis Valley

CHANDLER, COLORADO

Goodwin, Aurel	Chandler	Chandler 15R3	Fremont

CHERAW, COLORADO

Pitney, Orville	Cheraw	Cheraw 37F3	Otero

CHEYENNE WELLS, COLORADO

Law, E. L.	Cheyenne Wells	Cheyenne Wells 16	Kit Carson
Myers, L. N.	Cheyenne Wells	Cheyenne Wells 103	Kit Carson

CLIFTON, COLORADO

Glendenning, R. W.	Clifton	Clifton 1-W	Mesa

CLIMAX, COLORADO

Retallack, L. L.	Climax	Climax 2	Lake

COKEDALE, COLORADO

Horsky, Brooke	Cokedale	Cokedale 700-R5	Las Animas

COLLBRAN, COLORADO

Watson, W. V.	Collbran	Collbran 15-J4	Mesa
Zeigel, Henry H.	Collbran	Collbran 41	Mesa
Zinke, Wm.	Collbran	Collbran 31	Mesa

COLORADO SPRINGS, COLORADO

Name	Address	Telephone	Society
Allen, L. R.	Ferguson Bldg.	Main 1820	El Paso
Baker, Fred R.	18 Independence Bldg.	Main 4477	El Paso
Bancroft, G. W.	Ferguson Bldg.	Main 2259	El Paso
Boissevain, C. H.	Colorado College	Main 5480	El Paso
Bortree, L. W.	Ferguson Bldg.	Main 3181	El Paso
Boyd, G. A.	Exchange National Bank Bldg.	Main 803	El Paso
Brady, E. J.	Colorado Springs Psychopathic Hosp.	Main 3703	El Paso
Brobeck, V. H.	Ferguson Bldg.	Main 126	El Paso
Brown, J. H.	Burns Bldg.	Main 45	El Paso
Brown, L. G.	707 No. Cascade Ave.	Main 1999	El Paso
Bryan, H. C.	462 First National Bank Bldg.	Main 1075	El Paso
Campbell, William A.	Exchange National Bank Bldg.	Main 104	El Paso
Chapman, E. N.	124 W. Columbia Street	Main 1899	El Paso
Chapman, S. J.	Burns Bldg.	Main 781	El Paso
Coghlan, J. T.	204 First National Bank Bldg.	Main 1434	El Paso
Corlett, T. G.	First National Bank Bldg.	Main 753	El Paso
Crouch, J. B.	Ferguson Bldg.	Main 4160	El Paso
Cunning, J. E.	Burns Bldg.	Main 850	El Paso
Draper, Paul A.	316 Ferguson Bldg.	Main 4160	El Paso
Drea, W. F.	Burns Bldg.	Main 961	El Paso
Evans, T. J.	Crestone Heights Sanitarium	Main 687	El Paso
Faust, F. A.	819 N. Nevada Ave.	Main 407	El Paso
Forster, A. M.	Cragmor Sanatorium	Main 122	El Paso
Fountain, A. S.	2901 W. Colorado Ave.	Main 5664	El Paso
Giese, C. O.	316 Ferguson Bldg.	Main 4160	El Paso
Gilbert, George B.	402 Burns Bldg.	Main 1212	El Paso
Gillett, O. R.	Independence Bldg.	Main 23	El Paso
Gilmore, George B.	Independence Bldg.	Main 23	El Paso
Good, B. D.	Cragmor Sanatorium	Main 122	El Paso
Goodson, H. C.	Exchange National Bank Bldg.	Main 150	El Paso
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Mahoney, J. J.	First National Bank Bldg.	Main 305	El Paso
Marbourg, E. M.	212 Burns Bldg.	Main 472	El Paso
McClanahan, Z. H.	Exchange National Bank Bldg.	Main 150	El Paso
McConnell, J. F.	Ferguson Bldg.	Main 4160	El Paso
McCorkle, Harry B.	First National Bank Bldg.	Main 1075	El Paso
McCracken, C. P.	930 W. Cheyenne Road	Main 1953	El Paso
McCrossin, W. P., Jr.	Burns Bldg.	Main 444	El Paso
McIntyre, T. A.	First National Bank Bldg.	Main 753	El Paso
Miller, L. A.	Exchange National Bank Bldg.	Main 2898	El Paso
Morrison, C. S.	2514 W. Colorado Ave.	Main 965	El Paso
Mullett, A. M.	19 E. San Miguel	Main 2620	El Paso
Murphey, Bradford J.	104 E. Rio Grande St.	Main 4005	El Paso
Neeper, E. R.	Exchange National Bank Bldg.	Main 1	El Paso
Owens, R. L.	1819 N. Tejon	Main 3815	El Paso
Powell, H. M.	First National Bank Bldg.	Main 4547	El Paso
Richmond, C. E.	222 E. Dale St.	Main 821	El Paso
Rothrock, F. B.	Independence Bldg.	Main 326	El Paso
Ryder, Charles T.	Burns Bldg.	Main 4626	El Paso
Schaefer, S. W.	112 Exchange National Bank Bldg.	Main 242	El Paso
Service, W. C.	402 Burns Bldg.	Main 1212	El Paso
Sevier, J. A.	Burns Bldg.	Main 1212	El Paso
Shivers, G. C.	464 First National Bank Bldg.	Main 305	El Paso
Shivers, M. O.	First National Bank Bldg.	Main 305	El Paso
Smith, W. A.	Ferguson Bldg.	Main 3711	El Paso
Staines, Minnie E.	Burns Bldg.	Main 724	El Paso
Stine, George H.	Burns Bldg.	Main 5090	El Paso
Stough, C. F.	Ferguson Bldg.	Main 4160	El Paso
Thomson, W. J.	410 Exchange National Bank Bldg.	Main 1788	El Paso
Timmons, E. L.	712 Exchange National Bank Bldg.	Main 193	El Paso
Tucker, Beverly	1130 No. Nevada Ave.	Main 1166	El Paso
Vanderhoof, D. A.	Exchange National Bank Bldg.	Main 77	El Paso
Webb, G. B.	402 Burns Bldg.	Main 1212	El Paso
Williams, Judson T.	Ferguson Bldg.	Main 3711	El Paso
Winternitz, David H.	Burns Bldg.	Main 4559	El Paso
Woodward, Harry W.	Ferguson Bldg.	Main 4160	El Paso

CORTEZ, COLORADO

Calkins, Royal W.	Cortez	Cortez 77	San Juan
Johnson, E. E.	Cortez	Cortez 8	San Juan

CRAIG, COLORADO

Bailey, B. M.	Craig	Craig 26	Northwestern
Smith, A. E.	Box 306, Craig	Craig 38	Northwestern

CRESTED BUTTE, COLORADO

Name	Address	Telephone	Society
Alford, J. S.	Crested Butte	Crested Butte 10J	Chaffee
Schwer, Carl	Crested Butte	Crested Butte 10J	Chaffee

CRIPPLE CREEK, COLORADO

Hassenplug, W. F.	Cripple Creek	Cripple Creek 132	El Paso

DELAGUA, COLORADO

Jackson, Eugene	Delagua	Trinidad 042R2	Las Animas

DEL NORTE, COLORADO

Gjellum, A. B.	Del Norte	Del Norte 30	San Luis Valley
Weiler, R. B.	Del Norte	Del Norte 5	San Luis Valley

DELTA, COLORADO

Bast, Lee	Colorado Bank & Trust Co. Bldg.	Delta 295	Delta
Burgin, C. H.	358 Main St.	Delta 181R	Delta
Cleland, W. S.	Delta	Delta 102W	Delta
Day, W. A.	Colorado Bank & Trust Co. Bldg.	Delta 294	Delta
Erich, A. F.	Hillman Bldg.	Delta 40	Delta
Hick, Lawrence A.	Colorado Bank & Trust Co. Bldg.	Delta 293	Delta
Hick, L. L.	Colorado Bank & Trust Co. Bldg.	Delta 293	Delta
McClanahan, A. C.	Delta	Delta 73J-1	Delta
Phillips, Edward R.	Hillman Bldg.	Delta 89J	Delta
Shaffer, E. G.	Hillman Bldg.	Delta 72W	Delta
Underwood, Robert A.	354 Main Street	Delta 340	Delta

DENVER, COLORADO

Albi, Rudolph	309	American Bank Bldg.	Keystone 7703	Denver
Allen, Kenneth D A.	452	Metropolitan Bldg.	Tabor 4208	Denver
Allen, Phillip C. C.	224	Republic Bldg.	Main 2235	Denver
Allen, R. S.	25	E. Iowa Ave.	Pearl 0211	Denver
Altieri, J. A.	4057	Tejon St.	Gallup 6854	Denver
Ambler, J. V.	646	Metropolitan Bldg.	Keystone 6431	Denver
Amesse, J. W.	624	Metropolitan Bldg.	Tabor 0181	Denver
Anderson, C. W.	224	Republic Bldg.	Main 2235	Denver
Anderson, Thompson	1600	Downing St.	Main 5855	Denver
Apperson, E. L.	1035	Republic Bldg.	Tabor 6956	Denver
Argall, A. J.	932	Metropolitan Bldg.	Keystone 5304	Denver
Arndt, R. W.	100	Metropolitan Bldg.	Main 4187	Denver
Arneill, James Rae	100	Metropolitan Bldg.	Main 4187	Denver
Arneill, James Rae, Jr.	100	Metropolitan Bldg.	Main 4187	Denver
Ashley, G. A.	432	Republic Bldg.	Tabor 8044	Denver
Atcheson, George	405	Tabor Bldg.	Main 1776	Denver
Attwood, A. De Forest	4635	W. 38th Ave.	Gallup 0127	Denver
Auer, Eugene S.	637	Republic Bldg.	Keystone 4886	Denver
Baer, Simon	3800	Colfax Ave.	York 5410	Denver
Bagot, W. S.	500	17th St.	Tabor 3221	Denver
Bane, W. M.	1005	Republic Bldg.	Keystone 5731	Denver
Barber, W. W.	624	Metropolitan Bldg.	Tabor 0181	Denver
Barnard, H. I.	1707	E. 18th Ave.	York 7720	Denver
Barney, J. Murray	234	Mack Bldg.	Tabor 2541	Denver
Baskin, M. J.	425	Republic Bldg.	Keystone 5913	Denver
Bassow, S. H.	703	Republic Bldg.	Keystone 7907	Denver
Battock, Benjamin H.	831	Republic Bldg.	Tabor 6309	Denver
Baum, Harry L.	510	Republic Bldg.	Tabor 2954	Denver
Beaghler, Amos L.	414	14th St.	Tabor 7151	Denver
Beall, W. C.	3525	W. 49th Ave.	Gallup 1438	Denver
Beers, Ida V.	940	Metropolitan Bldg.	Keystone 2661	Denver
Beggs, W. N.	1403	Delaware St.	Main 2540	Denver
Best, T. E.	718	Mack Bldg.	Main 3457	Denver
Beyer, T. E.	418	Majestic Bldg.	Tabor 3800	Denver
Billings, Edward G.	4200	E. 9th St.	York 8500	Denver
Bingham, W. J.	624	Metropolitan Bldg.	Tabor 0181	Denver
Black, Melville	424	Metropolitan Bldg.	Keystone 5617	Denver
Black, W. C., Jr.	4200	E. 9th Ave.	York 8560	Denver
Blanchard, W. E.	601	Republic Bldg.	Main 3609	Denver
Blank, Henry	1218	Republic Bldg.	Main 4798	Denver
Blickensderfer, G. M.	544	Franklin St.	York 2862	Denver
Blosser, John R.	1339	Welton St.	Main 3445	Denver
Bluemel, C. S.	550	Metropolitan Bldg.	Tabor 4078	Denver
Bodemer, Herman	1378	Emerson St.	Cherry 0969	Denver
Bonesteel, A. E.	520	Metropolitan Bldg.	Keystone 6011	Denver
Bouslog, J. S.	246	Metropolitan Bldg.	Tabor 3037	Denver
Bowers, Abern E.	1023	Republic Bldg.	Tabor 8800	Denver
Bramley, J. R.	423	Majestic Bldg.	Main 5746	Denver
Brandenburg, H. P.	155	Metropolitan Bldg.	Keystone 0523	Denver
Brandon, E. Agnes	829	Majestic Bldg.	Keystone 3800	Denver
Brinton, W. T.	406	Republic Bldg.	Keystone 8231	Denver
Brown, Harry C.	330	Republic Bldg.	Tabor 1053	Denver
Brown, L. T.	734	Republic Bldg.	Keystone 3629	Denver
Brown, M. D.	821	Republic Bldg.	Tabor 2345	Denver
Buck, G. R.	726	Republic Bldg.	Cherry 2022	Denver
Bundsen, C. A.	738	Metropolitan Bldg.	Tabor 2265	Denver
Burnett, C. T.	550	Metropolitan Bldg.	Tabor 5428	Denver
Burns, T. Mitchell	830	Metropolitan Bldg.	Main 3508	Denver
Bush, C. E.	30	E. Dakota St.	Spruce 0016	Denver
Butman, W. W.	833	Majestic Bldg.	Keystone 7823	Denver
Butterfield, O. J.	110	Metropolitan Bldg.	Main 4133	Denver

DENVER (Continued)

Name	Address		Telephone	Society
Carmody, T. E.	806	Metropolitan Bldg.	Keystone 5464	Denver
Carpenter, F. H.	1218	Republic Bldg.	Main 4798	Denver
Carson, P. C.	6119	Montview Blvd.	Franklin 5559	Denver
Cattermole, George S.	301	Majestic Bldg.	Tabor 1762	Denver
Catterson, A. D.	654	Metropolitan Bldg.	Keystone 8408	Denver
Cecchini, A. S.	100	Metropolitan Bldg.	Main 4187	Denver
Chambers, Karl	812	Republic Bldg.	Tabor 0620	Denver
Charles, R. L.	564	Metropolitan Bldg.	Keystone 7023	Denver
Cheley, G. E.	203	Metropolitan Bldg.	Main 4062	Denver
Chernyk, Maurice	404	Republic Bldg.	Main 7212	Denver
Childs, S. B.	366	Metropolitan Bldg.	Tabor 5141	Denver
Chisholm, A. J.	320	Republic Bldg.	Tabor 0477	Denver
Clark, Dumont	330	Republic Bldg.	Tabor 4648	Denver
Coakley, H. E.	1001	Republic Bldg.	Keystone 1480	Denver
Cobianchi, P. L.	303	Mack Bldg.	Main 1901	Denver
Cohen, Haskell M.	709	Republic Bldg.	Main 5820	Denver
Coleman, Oscar E.	307	Majestic Bldg.	Keystone 7020	Denver
Collins, E. W.	508	Majestic Bldg.	Main 2555	Denver
Condon, William B.	1060	Mack Bldg.	Main 3777	Denver
Connell, J. E. A.	712	Metropolitan Bldg.	Tabor 6092	Denver
Connor, P. J.	1123	Republic Bldg.	Tabor 2341	Denver
Conway, L. A.	1024	Republic Bldg.	Keystone 3665	Denver
Cooper, C. E.	652	Metropolitan Bldg.	Main 2922	Denver
Cooper, Clyde J.	320	Republic Bldg.	Tabor 0094	Denver
Cooper, H. L.	412	Republic Bldg.	Keystone 5838	Denver
Cooper, Horace S.	234	Mack Bldg.	Tabor 2541	Denver
Cooper, K. G.	652	Metropolitan Bldg.	Keystone 3470	Denver
Corper, H. J.	3800	E. Colfax Ave.	York 5410	Denver
Cotton, G. K.	418	Republic Bldg.	Keystone 5289	Denver
Craig, Alexander C.	122	E. 16th Ave.	Keystone 2429	Denver
Crisp, W. H.	530	Metropolitan Bldg.	Tabor 3719	Denver
Crosby, L. G.	366	Metropolitan Bldg.	Tabor 5141	Denver
Cunningham, T. D.	932	Republic Bldg.	Main 3470	Denver
Currigan, Martin D.	432	Republic Bldg.	Tabor 2857	Denver
Curtis, H. B.	211	Cooper Bldg.	Main 5463	Denver
Damerow, A. P.	3800	E. Colfax Ave.	York 5410	Denver
Daniels, L. E.	924	Republic Bldg.	Keystone 5037	Denver
Danielson, Ralph W.	324	Metropolitan Bldg.	Main 2332	Denver
Darley, Ward	510	Metropolitan Bldg.	Keystone 4406	Denver
Dart, Merril O.	2525	South Downing St.	Pearl 3721	Denver
Darrow, C. H.	110	Metropolitan Bldg.	Main 4133	Denver
Davis, Jefferson C. W.	3805	Lowell Blvd.	Gallup 2591	Denver
Davis, J. B.	664	Metropolitan Bldg.	Keystone 6061	Denver
Davis, L. L.	215	Railway Exchange Bldg.	Tabor 2475	Denver
Dean, E. F.	506	Metropolitan Bldg.	Main 5609	Denver
Delehanty, Edward	235	Majestic Bldg.	Keystone 2916	Denver
Delehanty, E. J.	235	Majestic Bldg.	Keystone 2916	Denver
Dennis, W. S.	432	Republic Bldg.	Keystone 1555	Denver
Dickman, P. A.	212	Republic Bldg.	Tabor 3000	Denver
Dickson, Logan M.	1565	Pearl St.	Keystone 9525	Denver
Dickson, R. W.	915	Republic Bldg.	Tabor 8311	Denver
Diemer, F. E.	813	Republic Bldg.	Keystone 1073	Denver
Dixon, Robert K.	1104	Republic Bldg.	Keystone 8898	Denver
Dobos, E. I.		St. Joseph's Hospital	Main 6121	Denver
Dorsey, G. H.	946	Metropolitan Bldg.	Main 2232	Denver
Doty, D. A.	738	Metropolitan Bldg.	Tabor 2265	Denver
Douglass, A. L.	306	Mack Bldg.	Tabor 3444	Denver
Downing, E. D.	2636	Albion St.	York 7988-M	Denver
Dreyer, J. Henry	309	Mack Bldg.	Keystone 5445	Denver
Drinkwater, R. L.	804	Republic Bldg.	Tabor 7066	Denver
Dumm, B. I.	409	Majestic Bldg.	Keystone 8071	Denver
Durbin, Edgar	850	Metropolitan Bldg.	Keystone 3530	Denver
Dwyer, Paul K.	830	Metropolitan Bldg.	Main 3508	Denver
Earley, A. H.	1204	Republic Bldg.	Keystone 0680	Denver
Eastlake, A. C.	816	Republic Bldg.	Main 5761	Denver
Ebaugh, Franklin G.	4200	E. 9th Ave.	York 8500	Denver
Edwards, G. M.	732	Republic Bldg.	Tabor 0013	Denver
Elder, Charles S.	802	Majestic Bldg.	Tabor 8515	Denver
Elliot, H. R.	330	Metropolitan Bldg.	Tabor 4802	Denver
Ellis, George D.	764	Metropolitan Bldg.	Keystone 5784	Denver
Elrick, Leroy	816	Republic Bldg.	Keystone 7411	Denver
Enos, Clinton	826	Majestic Bldg.	Main 1633	Denver
Esserman, A. L.	1035	Republic Bldg.	Tabor 0052	Denver
Evans, F. J.	414	Mack Bldg.	Tabor 7538	Denver
Evans, John R.	620	Republic Bldg.	Tabor 8531	Denver
Eyerley, T. L.	3727	Wolfe St.	Gallup 7310-W	Denver
Faust, L. S.	1104	Republic Bldg.	Keystone 8898	Denver
Filmer, B. A.	1331	S. Marion St.	Pearl 8486	Denver
Finney, H. S.	1236	Republic Bldg.	Tabor 0626	Denver
Fisher, C. D.	633	Mack Bldg.	Keystone 0878	Denver
Forbes, Roy P.	1850	Gilpin St.	Franklin 4772	Denver
Foster, John M.	738	Metropolitan Bldg.	Tabor 2248	Denver
Foster, J. M., Jr.	504	Republic Bldg.	Keystone 0294	Denver
Fowler, Freeman D.	227	Mack Bldg.	Keystone 5341	Denver
Fowler, H. L.	425	Mack Bldg.	Tabor 3063	Denver
Fowler, O. S.	302	Metropolitan Bldg.	Tabor 3663	Denver
Frank, L. W.	610	Republic Bldg.	Main 5853	Denver
Fraser, R. W.	536	Majestic Bldg.	Keystone 0846	Denver
Freeland, H. J.	1032	Republic Bldg.	Tabor 4562	Denver
Freeman, Leonard	424	Metropolitan Bldg.	Keystone 5617	Denver
Freeman, Leonard, Jr.	424	Metropolitan Bldg.	Keystone 5617	Denver
Freshman, A. W.	234	Metropolitan Bldg.	Main 2954	Denver
Friedland, Jos. D.	1019	Republic Bldg.	Tabor 0935	Denver
Friedman, Emanuel	326	Republic Bldg.	Main 1943	Denver
Friesch, Wenzel	625	Republic Bldg.	Main 6829	Denver
Frumess, G. M.	737	Republic Bldg.	Main 6777	Denver
Gale, M. J.	332	Republic Bldg.	Tabor 2672	Denver

DENVER (Continued)

Name	Address		Telephone	Society
Gallaher, T. J.	605	California Bldg.	Keystone 0628	Denver
Gardner, Sidney M.	4504	Washington St.	Main 8393	Denver
Gauss, Harry	535	Republic Bldg.	Tabor 5723	Denver
Gengenbach, F. F.	1850	Gilpin St.	Franklin 4772	Denver
George, McLeod M.		Bethesda Sanitarium	Pearl 5033	Denver
Gillen, G. H.	1337	Gaylord St.	York 3716	Denver
Ginsburg, M. M.	624	Metropolitan Bldg.	Tabor 0181	Denver
Glenn, G. A.	4200	Tejon St.	Gallup 4500	Denver
Goldhammer, Samuel S.	615	Republic Bldg.	Main 4695	Denver
Gordon, R. W.	999	So. Broadway	Keystone 3311	Denver
Gottesfeld, M. R.	1024	Republic Bldg.	Keystone 5055	Denver
Graham, D. A.	323	Mack Bldg.	Main 0614	Denver
Graham, E. V.	1205	Republic Bldg.	Tabor 2456	Denver
Greene, L. W.	1237	Republic Bldg.	Keystone 8600	Denver
Greig, William M.	415	Majestic Bldg.	Main 0424	Denver
Guthrie, Alice B.	823	Majestic Bldg.	Tabor 1631	Denver
Guthrie, E. C.	464	Steele Bldg.	Keystone 5661	Denver
Gwinn, Lawrence M.	1005	So. Gaylord St.	Spruce 1249	Denver
Haggart, William W.	1003	Republic Bldg.	Tabor 1418	Denver
Haley, A. T.	415	Majestic Bldg.	Main 0424	Denver
Hagman, Frank E.	993	South Broadway	Pearl 2411	Denver
Hall, J. N.	730	Metropolitan Bldg.	Keystone 6650	Denver
Halley, William H.	220	Metropolitan Bldg.	Tabor 6715	Denver
Halsted, F. S.	738	Metropolitan Bldg.	Tabor 2248	Denver
Hansen, F. P.	506	Mack Bldg.	Tabor 5915	Denver
Hargreaves, O. C.	3700	W. 32nd Ave.	Gallup 2210	Denver
Harrington, John F.	1227	Republic Bldg.	Main 4449	Denver
Hartendorp, Paulus V. H.	1203	Republic Bldg.	Keystone 0027	Denver
Hartley J. E.	1224	Republic Bldg.	Tabor 1224	Denver
Harvey, E. L.	632	Republic Bldg.	Tabor 5366	Denver
Harvey, H. G., Jr.	632	Republic Bldg.	Tabor 5366	Denver
Hazlett, J. D.	604	Republic Bldg.	Keystone 0108	Denver
Hegner, C. F.	724	Metropolitan Bldg.	Keystone 7913	Denver
Henderson, H. B.	509	Republic Bldg.	Main 5191	Denver
Hepp, G. B.	521	Mack Bldg.	Keystone 0677	Denver
Hepp, Louis C.	332	Mack Bldg.	Keystone 1020	Denver
Heusinkveld, Gerrit	620	Republic Bldg.	Tabor 8531	Denver
Hickey, H. L.	934	Republic Bldg.	Keystone 1742	Denver
Higbee, D. R.	1117	Republic Bldg.	Tabor 9797	Denver
Hill, K. A.	632	Metropolitan Bldg.	Main 2340	Denver
Hillkowitz, Philip	236	Metropolitan Bldg.	Main 2954	Denver
Hilton, Jack Palmer	920	Republic Bldg.	Keystone 5542	Denver
Hinton, C. B.	104	Broadway	Spruce 0995	Denver
Hix, I. E.	1138	Republic Bldg.	Keystone 8421	Denver
Hodges, Dean W.	806	Republic Bldg.	Keystone 8789	Denver
Holt, Frank	332	Mack Bldg.	Keystone 1020	Denver
Hopkins, H. J.	3211	Lowell Bldg.	Gallup 7360	Denver
Howard, J. F.	2400	Gaylord St.	Franklin 1801-W	Denver
Howard, T. Leon	1224	Republic Bldg.	Tabor 1224	Denver
Hoyt, R. W.	404	Republic Bldg.	Keystone 5517	Denver
Hudston, Ranulph	1735	Gilpin St.	Franklin 6767	Denver
Hughes, Harry C.	1365	Corona St.	Cherry 2517	Denver
Hutchison, James E.	216	Republic Bldg.	Keystone 1624	Denver
Hutton, J. G.	506	Republic Bldg.	Tabor 5625	Denver
Huxhold, A. F.	1723	Stout Street	Tabor 9111	Denver
Imbro, Eva Arbini	4656	Gilpin St.	Tabor 5591	Denver
Inglis, John	837	Republic Bldg.	Main 5524	Denver
Ingraham, C. B.	509	Republic Bldg.	Main 5191	Denver
Irwin, R. S.	714	Republic Bldg.	Main 5515	Denver
Jackson, Edward	1003	Republic Bldg.	Keystone 7517	Denver
Jaeger, J. R.	632	Republic Bldg.	Tabor 5366	Denver
Jaffa, B. B.	558	Metropolitan Bldg.	Tabor 1511	Denver
Jelstrup, Gunnar	1019	Republic Bldg.	Keystone 0409	Denver
Jeurink, John	1620	So. Pearl St.	Spruce 058	Denver
Jeurink, V. G.	527	Republic Bldg.	Main 3938	Denver
Jobe, M. C.	606	Metropolitan Bldg.	Main 4543	Denver
John, G. H.	560	Metropolitan Bldg.	Keystone 7023	Denver
Jones, Rodney H.	203	Metropolitan Bldg.	Main 1002	Denver
Jones, Vera H.	225	Republic Bldg.	Tabor 4041	Denver
Jones, Wiley	314	Majestic Bldg.	Keystone 2601	Denver
Katzman, Maurice	402	Republic Bldg.	Keystone 0411	Denver
Kaufman, Charles J.	3800	E. Colfax Ave.	York 5410	Denver
Keefe, John A.	920	Republic Bldg.	Keystone 1779	Denver
Kemper, C. F.	706	Metropolitan Bldg.	Main 3661	Denver
Kenney, F. W.		Capitol Life Bldg.	Keystone 2211	Denver
Kent, G. B.	516	Republic Bldg.	Main 2646	Denver
Kestle, C. W.	122	E. 16th Ave.	Keystone 2429	Denver
King, W. W.	738	Metropolitan Bldg.	Tabor 2265	Denver
Kingry, C. B.	608	Republic Bldg.	Tabor 5464	Denver
Kinney, J. E.	606	Metropolitan Bldg.	Keystone 0473	Denver
Knoch, N. H.	523	Majestic Bldg.	Keystone 3431	Denver
Koplowitz, Joseph E.	1050	Sherman St.		Denver
Kracaw, A. R.	735	Monroe St.	Keystone 1003	Denver
Kretschmer, O. S.	306	Republic Bldg.	Keystone 8563	Denver
Krohn, Morris J.	406	Central Savings Bank Bldg.	Keystone 8517	Denver
Krueger, E. H.	2736	Vine St.	Cherry 0101	Denver
Kruse, May B.	205	Mack Bldg.	Keystone 3006	Denver
Kunitoma, N.	3301	Zuni St.	Gallup 0753	Denver
Laff, Herman I.	406	Metropolitan Bldg.	Keystone 1908	Denver
Lamberton, R. F.	314	Mack Bldg.	Keystone 2548	Denver
Lang, R. R.	229	Commonwealth Bldg.	Keystone 2436	Denver
Lannon, A. R.	632	Republic Bldg.	Tabor 5366	Denver
Lawrence, David H.	1109	Republic Bldg.	Keystone 5659	Denver

DENVER (Continued)

Name	Address	Telephone	Society
Lee, G. H.	330 Metropolitan Bldg.	Keystone 4323	Denver
Lee, L. W.	732 Republic Bldg.	Tabor 7816	Denver
LeRossignol, W. J.	686 So. Pearl St.	Pearl 0933	Denver
Levin, O. S.	300 United Securities Bldg.	Franklin 2715	Denver
Levy, Maurice	709 Republic Bldg.	Main 0633	Denver
Levy, Robert	406 Metropolitan Bldg.	Keystone 1908	Denver
Lewis, George B.	856 Metropolitan Bldg.	Tabor 5788	Denver
Lewis, Robert	230 Majestic Bldg.	Tabor 3890	Denver
Lewis, W. B.	3268 W. 32nd Ave.	Gallup 0224	Denver
Leyda, J. H.	956 Metropolitan Bldg.	Keystone 3768	Denver
Liggett, Robert S.	203 Metropolitan Bldg.	Main 1002	Denver
Lingenfelter, G. P.	646 Metropolitan Bldg.	Keystone 6431	Denver
Lipscomb, John M.	1224 Republic Bldg.	Tabor 1224	Denver
Lof, A. J. O.	836 Metropolitan Bldg.	Keystone 4000	Denver
Long, Margaret	2070 Colorado Blvd.	York 2165	Denver
Lorber, M. B.	636 Republic Bldg.	Keystone 4886	Denver
Lord, Byron H.	1860 Lincoln St.	Tabor 2029	Denver
Love, T. R.	302 Metropolitan Bldg.	Keystone 0335	Denver
Lowen, C. J.	717 Republic Bldg.	Main 2331	Denver
Lowther, R. R.	945 Washington St.	Cherry 0013	Denver
Lubeley, L. F.	1227 Republic Bldg.	Main 4449	Denver
Macomber, Douglas W.	532 Republic Bldg.	Main 2046	Denver
Macomber, H. G.	1415 Welton St.	Keystone 7733	Denver
Maier, Frank Julian	1123 Republic Bldg.	Tabor 2341	Denver
Main, George C.	227 Mack Bldg.	Keystone 5341	Denver
Manns, Rudolph	722 Republic Bldg.	Keystone 7001	Denver
Marcove, M. E.	526 Republic Bldg.	Main 5416	Denver
Markel, Casper	631 Majestic Bldg.	Main 4942	Denver
Markley, A. J.	432 Metropolitan Bldg.	Keystone 2829	Denver
Mason, Lyman W.	1011 Republic Bldg.	Main 2344	Denver
Maul, H. G.	227 Mack Bldg.	Keystone 5341	Denver
Maul, R. F.	227 Mack Bldg.	Keystone 5341	Denver
Maytum, Helen E.	632 Republic Bldg.	Tabor 5266	Denver
McCaw, John A.	418 Majestic Bldg.	Tabor 3800	Denver
McDonald, R. J.	626 Republic Bldg.	Tabor 7747	Denver
McGill, Earl D.	631 Downing Street	Main 8164	Denver
McGraw, H. R.	416 Metropolitan Bldg.	Keystone 3934	Denver
McKeen, H. R.	532 Republic Bldg.	Keystone 7671	Denver
McKelvey, S. R.	4403 W. 32nd Ave.	Gallup 1382	Denver
McKeown, E. E.	406 Republic Bldg.	Keystone 8231	Denver
McLauthlin, C. A.	532 Republic Bldg.	Tabor 1067	Denver
McNaught, F. H.	619 Majestic Bldg.	Keystone 2921	Denver
Meader, C. N.	518 Majestic Bldg.	Tabor 0914	Denver
Mechler, Emmett A.	423 Republic Bldg.	Cherry 1016	Denver
Mendenhall, John C.	932 Republic Bldg.	Main 3470	Denver
Metcalf, A. W., Jr.	820 Metropolitan Bldg.	Keystone 3124	Denver
Metz, C. W.	1134 Republic Bldg.	Keystone 2522	Denver
Miel, G. W.	1212 E. Colfax Ave.	Keystone 0420	Denver
Miller, A. H.	340 Metropolitan Bldg.	Tabor 2803	Denver
Miller, Eli A.	266 Metropolitan Bldg.	Tabor 4289	Denver
Miller, L. I.	266 Metropolitan Bldg.	Tabor 4289	Denver
Miller, Simon I.	412 Republic Bldg.	Tabor 8614	Denver
Mills, F. McConnell	1900 Dahlia St.	Franklin 1265	Denver
Minnig, Arnold	638 Metropolitan Bldg.	Keystone 1571	Denver
Mitchell, W. C.	430 State Office Bldg.	Keystone 1171	Denver
Mogan, W. E.	423 Republic Bldg.	Main 1847	Denver
Monaghan, D. G.	535 Majestic Bldg.	Main 0706	Denver
Monson, G. L.	821 Republic Bldg.	Tabor 2345	Denver
Moon, A. L.	2525 So. Downing St.	Pearl 3721	Denver
Morian, C. H.	510 Mack Bldg.	Tabor 2473	Denver
Morrison, R. G.	1103 Republic Bldg.	Main 3747	Denver
Mudd, Willis G.	214 Majestic Bldg.	Keystone 3623	Denver
Mugrage, E. R.	4200 E. 9th Ave.	York 8500	Denver
Mumey, Nolie	1133 Republic Bldg.	Keystone 3600	Denver
Murphy, Rex L.	110 Metropolitan Bldg.	Main 4133	Denver
Nelson, Eli	926 Republic Bldg.	Main 2911	Denver
Nelson, William	808 Majestic Bldg.	Tabor 0920	Denver
Ness, R. J.	354 Metropolitan Bldg.	Keystone 4472	Denver
Netherton, George F.	404 Republic Bldg	Tabor 4465	Denver
Newcomer, Elizabeth H.	306 Republic Bldg.	Keystone 8563	Denver
Newcomer, N. B.	306 Republic Bldg.	Keystone 8563	Denver
Newman, Samuel P.	1707 E. 18th Ave.	York 7720	Denver
Newsom, H. G.	227 Mack Bldg.	Keystone 5341	Denver
Ohmart, W. A.	1214 Republic Bldg.	Main 6941	Denver
Olmsted, G. K.	505 Republic Bldg.	Main 3014	Denver
O'Rourke, D. H.	1129 Republic Bldg.	Keystone 8315	Denver
Orsborn, G. E.	428 Majestic Bldg.	Main 0971	Denver
Packard, George B.	764 Metropolitan Bldg.	Keystone 5784	Denver
Packard, Robert G.	1707 E. 18th Ave.	York 7720	Denver
Pate, C. E.	520 Metropolitan Bldg.	Keystone 1839	Denver
Pattee, George L.	612 Republic Bldg.	Main 7069	Denver
Perkins, C. C.	907 Republic Bldg.	Keystone 6712	Denver
Perkins, Earl J.	958 Metropolitan Bldg.	Keystone 4637	Denver
Perrin, J. B.	730 Metropolitan Bldg.	Keystone 8083	Denver
Perrott, E. W.	1024 Republic Bldg.	Keystone 6084	Denver
Perry, Herbert A.	4200 E. 9th Ave.	York 8500	Denver
Peters, David B.	U. S. Navy Recruiting Station	Keystone 4151	Denver
Phillips, Samuel Grover	529 Majestic Bldg.	Main 0458	Denver
Philpott, Ivan W.	932 Metropolitan Bldg.	Keystone 5304	Denver
Philpott, James A.	202 Metropolitan Bldg.	Tabor 2985	Denver
Pilpott, Osgoode S.	432 Metropolitan Bldg.	Keystone 2829	Denver
Plank, J. R.	1227 Republic Bldg.	Main 4449	Denver
Plaugher, Lee Roy	824 Majestic Bldg.	Main 6488	Denver
Pollock, C. R.	704 Republic Bldg.	Tabor 7516	Denver
Porter, W. C.	1120 Republic Bldg.	Tabor 8610	Denver
Postma, George S.	1590 So. Pearl St.	Spruce 3044	Denver
Pothuisje, P. J.	638 Majestic Bldg.	Main 3539	Denver
Potter, S. B.	224 Republic Bldg.	Main 2235	Denver

DENVER (Continued)

Name	Address	Telephone	Society
Fowell, Cuthbert	1578 Humboldt St.	Tabor 3234	Denver
Pratt, Elsie S.	737 Republic Bldg.	Tabor 2672	Denver
Prey, Duval	504 Republic Bldg.	Keystone 0294	Denver
Price, Craig	100 Metropolitan Bldg.	Main 4187	Denver
Prinzing, J. F.	717 Republic Bldg.	Keystone 5713	Denver
Purcell, J. W	3788 Walnut St.	Keystone 6911	Denver
Radetzky, Morton H.	1578 Humboldt St.	Tabor 3234	Denver
Ramsey, R. T.	566 Metropolitan Bldg.	Main 4619	Denver
Reckler, Sidney	717 Republic Bldg.	Keystone 0600	Denver
Rees, Maurice H.	2810 E. 17th Ave.	Res. Franklin 0891	Denver
Reilly, J. J.	1931 Eudora St.	York 5740	Denver
Reynolds, Edna M.	208 Metropolitan Bldg.	Keystone 1444	Denver
Richards, D. F.	804 Republic Bldg.	Tabor 4761	Denver
Richards, Robert B.	1235 E. 14th Ave.	Keystone 9598	Denver
Rilance, C. D	904 Republic Bldg.	Keystone 6429	Denver
Ritterspach, F. J.	820 Metropolitan Bldg.	Keystone 3124	Denver
Robbins, Harry E.	620 Republic Bldg.	Tabor 8531	Denver
Robinson, E. F.	Albany Hotel	Keystone 5211	Denver
Robinson, L. W.	821 Republic Bldg.	Tabor 2345	Denver
Roe, J. F.	504 Equitable Bldg.	Tabor 1162	Denver
Rogers, F. E.	802 Majestic Bldg.	Tabor 8515	Denver
Rothwell, W. D.	438 Republic Bldg.	Tabor 3981	Denver
Ruddy, James	726 Cosmopolitan Hotel	Main 2181	Denver
Ruegnitz, L. H.	1717 Downing St.	Tabor 5369	Denver
Russell, James E.	820 Metropolitan Bldg.	Keystone 3792	Denver
Ryan, J. G.	725 Mack Bldg.	Main 0834	Denver
Rymer, Chas. A.	4200 East 9th Ave.	York 8500	Denver
Safarik, L. R.	1017 Republic Bldg.	Keystone 8507	Denver
Saks, H. S.	312 17th St.	Main 6884	Denver
Sams, L. V.	1010 Republic Bldg.	Main 1486	Denver
Savage, Raymond J.	635 Republic Bldg.	Tabor 1819	Denver
Sawyer, K. C.	516 Republic Bldg.	Main 2646	Denver
Scherrer, E. A.	216 Republic Bldg.	Keystone 1624	Denver
Schmidt, E. A.	756 Jackson St.	Franklin 2625-R	Denver
Schoonover, J. A.	610 Republic Bldg.	Tabor 5514	Denver
Searle, Hester B.	1415 Welton St.	Keystone 7733	Denver
Sears, Thad P.	Med. Dept., Denver Tramway Co.	Main 5111	Denver
Sedwick, W. A.	835 Republic Bldg.	Tabor 1941	Denver
Sells, V. E.	2239 E. Colfax Ave.	Franklin 2715	Denved
Sevier, C. E.	418 Republic Bldg.	Keystone 5289	Denver
Sewall, Henry	1360 Vine St.	York 1474	Denver
Shea, R. M.	1244 Grant St.	Keystone 0354	Denver
Shields, J. M.	262 Metropolitan Bldg.	Tabor 4594	Denver
Simon, S.	1218 Republic Bldg.	Keystone 3417	Denver
Sims, Harry J.	258 Metropolitan Bldg.	Keystone 6969	Denver
Smith, Bryce D.	4015 West 29th Avenue	Gallup 6403	Denver
Smith, Charles	509 Republic Bldg.	Main 5191	Denver
Smith, Guy W.	806 Metropolitan Bldg.	Keystone 5464	Denver
Smith, R. G.	512 Metropolitan Bldg.	Main 0738	Denver
Snyder, H. W.	832 Republic Bldg.	Tabor 6309	Denver
Sommer, H. O.	Adams Hotel	Tabor 7121	Denver
Spangelberger, M A.	604 Republic Bldg.	Keystone 0108	Denver
Spicer, C. M.	1106 Republic Bldg.	Keystone 2571	Denver
Stander, Theodore C.	638 Metropolitan Bldg.	Keystone 4577	Denver
Stander, Thomas R.	613 Republic Bldg.	Main 4825	Denver
Staunton, A G.	835 Republic Bldg.	Tabor 1941	Denver
Stein, Herman B.	310 Republic Bldg.	Tabor 1416	Denver
Stephenson, F. R.	452 Metropolitan Bldg.	Tabor 4208	Denver
Stettheimer, C. J.	606 Metropolitan Bldg.	Keystone 0473	Denver
Stevens, John L.	66 Knox Court	Spruce 8920	Denver
Strickler, D. A.	1520 York St.	York 1693	Denver
Struthers, J. E.	904 Republic Bldg.	Main 0813	Denver
Stuver, H. W.	324 Majestic Bldg.	Main 1968	Denver
Sunderland, W. E.	705 Republic Bldg.	Main 0560	Denver
Swerdfeger, E. B.	1763 Gilpin St.	York 3300	Denver
Swigert, J. L.	1102 Republic Bldg.	Main 6509	Denver
Swigert, William B.	1244 Grant St.	Tabor 8720	Denver
Taylor, E. E.	505 Republic Bldg.	Main 3014	Denver
Tepley, Leo V.	804 Republic Bldg.	Tabor 2008	Denver
Thayer, M. D.	527 Majestic Bldg.	Tabor 2766	Denver
Thomas, Atha	418 Republic Bldg.	Keystone 5289	Denver
Thomas, Ralph A.	1135 Adams St.	York 7180	Denver
Thompson, N. A.	946 Metropolitan Bldg.	Main 2232	Denver
Thorsness, E. T.	Denver General Hospital	Tabor 1331	Denver
Thulin, H. F.	104 Broadway	Spruce 0995	Denver
Towbin, Samuel	2257 W. 32nd Ave.	Gallup 1155	Denver
Tower, F. A.	302 Quincy Bldg.	Keystone 2444	Denver
Townsend, Guy W.	556 Metropolitan Bldg.	Main 1041	Denver
Triplett, T. A.	235 Majestic Bldg.	Keystone 3701	Denver
Troute, F. R.	832 Republic Bldg.	Tabor 6309	Denver
Trumbauer, C. A.	3576 E. 34th Ave.	York 5490	Denver
Ulmer, H. D.	407 Mack Bldg.	Tabor 6632	Denver
Van Meter, L. M.	834 Republic Bldg.	Tabor 7978	Denver
Van Meter, Virginia C.	1621 Court Pl.	Main 1897	Denver
Van Stone, L. M.	1578 Humboldt St.	Cherry 2326	Denver
Van Stone, W. D.	1578 Humboldt St.	Tabor 3234	Denver
Van Zant, C. B.	460 Metropolitan Bldg.	Keystone 7463	Denver
Verploeg, Ralph H.	1850 Gilpin St.	Franklin 4772	Denver
Von Detten, H. J.	920 Republic Bldg.	Keystone 8808	Denver
Waddell, M. C.	637 Republic Bldg.	Keystone 0343	Denver
Wade, L. H.	817 Majestic Bldg.	Keystone 7623	Denver
Waggener, W. R.	220 Metropolitan Bldg.	Main 0351	Denver

DENVER (Continued)

Name	Address	Telephone	Society
Walker, Chas. E.	1114 Republic Bldg.	Tabor 7665	Denver
Walker, Charles E., Jr.	1114 Republic Bldg.	Tabor 7665	Denver
Walton, J. B.	1134 Republic Bldg.	Tabor 3447	Denver
Waring, James J.	203 Metropolitan Bldg.	Main 1002	Denver
Warner, G. R.	1206 Republic Bldg.	Keystone 5124	Denver
Wasson, W. W.	246 Metropolitan Bldg.	Tabor 3037	Denver
Waters, P. A.	309 Federal Bldg.	Keystone 4151	Denver
Wear, Harry H.	915 Republic Bldg.	Tabor 8311	Denver
Wearner, A. A.	1134 Republic Bldg.	Keystone 2522	Denver
Weatherford, J. E.	300 United Securities Bldg.	Franklin 2715	Denver
Weeks, Paul R.	452 Metropolitan Bldg.	Tabor 4208	Denver
Weiner, Morris	1035 Republic Bldg.	Tabor 6817	Denver
Weinstein, Sidney S.	83 So. Bdoadway	Pearl 7958	Denver
Weiss, F. H.	1449 Pennsylvania St.	Keystone 0996	Denver
Whitaker, H. L.	1234 Republic Bldg.	Main 2759	Denver
Whitaker, W. O.	912 Republic Bldg.	Keystone 1918	Denver
Whitehead, R. W.	4200 E. 9th Ave.	York 8500	Denver
Whiteley, P. W.	818 Metropolitan Bldg.	Tabor 6063	Denver
Whitney, H. B.	564 Metropolitan Blg.	Main 3300	Denver
Williams, G Z.	456 Metropolitan Bldg.	Tabor 1671	Denver
Williams, Sherman	346 Metropolitan Bldg.	Main 1506	Denver
Williams, William W.	503 Majestic Bldg.	Tabor 4312	Denver
Willis, C. H.	307 Railway Exchange Bldg.	Tabor 8418	Denver
Wilson, A. Lawrence	606 Metropolitan Bldg.	Main 4543	Denver
Wilson, R. E.	1008 Republic Bldg.	Tabor 8324	Denver
Winemiller, L. H.	404 Republic Bldg.	Keystone 4812	Denver
Withers, Sanford M.	304 Republic Bldg.	Keystone 8633	Denver
Wolfe, A. M.	1101 Republic Bldg.	Cherry 2000	Denver
Wollenweber, L. C.	808 Republic Bldg.	Keystone 8443	Denver
Wollgast, Geo. F.	1448 So. Broadway	Spruce 5118	Denver
Woodcock, W. C.	315 Emerson St.	Pearl 8464	Denver
Work, Philip	1202 Republic Bldg.	Keystone 8333	Denver
Workman, Cloyd W.	1078 So. Gaylord St.	Pearl 6690	Denver
Wright, G. M.	331 Mack Bldg.	Main 2426	Denver
Yegge, W. B.	436 Metropolitan Bldg.	Main 1346	Denver
Yont, Kate E. G.	4420 W. 31st Ave.	Gallup 4649	Denver
Young, H. B.	330 Republic Bldg.	Tabor 1062	Denver
Zarit, John I.	1216 Republic Bldg.	Keystone 6994	Denver

DOLORES, COLORADO

Lefurgey, H. C.	Dolores	Dolores 44	San Juan

DURANGO, COLORADO

Burnett, A. L.	Kruschke Bldg.	Durango 212	San Juan
Darling, J. C.	Century Bldg.	Durango 60	San Juan
Downing, R. L.	126 W. 9th St.	Durango 161	San Juan
Elliott, W. M.	946 Main	Durango 322	San Juan
Lingenfelter, H. A.	102 E. 8th St.	Durango 203	San Juan
Rensch, O. B.	Century Bldg.	Durango 441	San Juan
Roadruck, R. Davis	Box 206	Durango 60	San Juan
Stivers, Frank F.	Durango	Durango 284	San Juan

EADS, COLORADO

Mitchell, Lee Roy	Eads	Eads 22	Prowers

EAGLE, COLORADO

Hotopp, T. M. H.	Eagle	Eagle 311 F11	Garfield

EASTLAKE, COLORADO

Elmore, R. D.	Eastlake	Broomfield 67-J2	Adams

EATON, COLORADO

Hall, A. Z.	Eaton	Eaton 135	Weld
Holden, E. G.	Eaton	Eaton 27	Weld

EDGEWATER, COLORADO

Bailey, George P.	1393 Sheridan Blvd.	Lakewood 314	Clear Creek Valley
Sunderland, O. R.	2503 Benton St.	Gallup 4141	Clear Creek Valley

ELBERT COLORADO

Denney, R. H.	Elbert	Elbert 17	Arapahoe

ELIZABETH, COLORADO

Bennett, W. S.	Elizabeth	Elizabeth 17	Arapahoe

ENGLEWOOD, COLORADO

Alldredge, H. H.	3503 So. Broadway	Englewood 6	Arapahoe
Catron, Homer B.	3503 So. Broadway	Englewood 22	Arapahoe
Eigler, Charles O.	3425 South Broadway	Englewood 1206	Arapahoe
Isbell N. Paul	3485 So. Broadway	Englewood 18	Arapahoe
Pollock Louis A.	3533 So. Broadway	Englewood 53	Arapahoe
Simon, John	3345 So. Broadway	Englewood 192W	Arapahoe
Wiedenmann, J. C.	3498 So. Broadway	Englewood 200	Arapahoe

ERIE, COLORADO

Bixler, C. W.	Erie	Erie 22-R1	Boulder
Weston, Horace L.	Erie	Erie 22-R1	Boulder

ESTES PARK, COLORADO

Name	Address	Telephone	Society
Lull, Lynn J.	Camp NP-1-C	Estes Park 019-R12	Montrose
Mall, Jacob O.	Estes Park	Estes Park 78	Larimer
Weist, Roy F.	Estes Park	Estes Park 41	Larimer

EVANS, COLORADO

Averill, H. W.	Evans	Evans 44-F-1	Weld

EVERGREEN, COLORADO

Mason, George E.	Box 22, Evergreen	Evergreen 112	Clear Creek Valley

FAIRPLAY, COLORADO

Burlingame, Robert M.	Fairplay	Fairplay 57	Chaffee
Jacobs, John T.	Fairplay	Fairplay 15 R2	Chaffee

FLAGLER, COLORADO

Reid, E. W.	Flagler	Flagler 82W	Kit Carson

FLORENCE, COLORADO

Adkinson, Royal C.	Blunt Bldg.	Florence 128	Fremont
Hutton, Vardy A.	Blunt Bldg.	Florence 152	Fremont
Rupert, L. E.	119 E. 2nd St.	Florence 16	Fremont
Waroshill, A. D.	Daniels Blk.	Florence 218	Fremont
Williams, N. C.	Camp Kenwood	Florence 43 J3	Fremont

FORT COLLINS, COLORADO

Beebe, N. L.	Robertson Bldg.	Ft. Collins 343W	Larimer
Betts, F. A.	1514 Peterson	Ft. Collins 424W	Larimer
Brown, Thad C.	Colorado Bldg.	Ft. Collins 170W	Larimer
Brownell, W. F.	Colorado Bldg.	Ft. Collins 219W	Larimer
Carey, J. D.	Poudre Valley National Bank Bldg.	Ft. Collins 204	Larimer
Carroll, Charles A.	Robertson Bldg.	Ft. Collins 2041W	Larimer
Carroll ,Frank	Robertson Bldg.	Ft. Collins 2041W	Larimer
Cram, Victor E.	Physicians Bldg.	Ft. Collins 1048W	Larimer
Dickey, L. D.	210 Colorado Bldg.	Ft. Collins 281W	Larimer
Dickey, Olive L.	210 Colorado Bldg.	Ft. Collins 281W	Larimer
Garrison, G. E.	Robertson Bldg.	Ft. Collins 219W	Larimer
Gleason, R. L.	Robertson Bldg.	Ft. Collins 440W	Larimer
Groshart, O. D.	200 East Laurel St.	Ft. Collins 2198J	Otero
Halley, S. C.	Colorado Bldg.	Ft. Collins 323	Larimer
Hartshorn, Duane F.	Physicians Bldg.	Ft. Collins 321	Larimer
Hartshorn, F. H.	Physicians Bldg.	Ft. Collins 321	Larimer
Haughey, I. W.	203 Trimble Bldg.	Ft. Collins 263W	Larimer
Honstein, C. E.	Wilson Bldg.	Ft. Collins 101W	Larimer
Humphrey, F. A.	Trimble Bldg.	Ft. Collins 560W	Larimer
Lee, Robert M.	Physicians Bldg.	Ft. Collins 460W	Larimer
Little, Lowell	Colorado Bldg.	Ft. Collins 669W	Larimer
Morrill, E. L.	633 Remington St.	Ft. Collins 790	Larimer
Platz, C. H.	Colorado Bldg.	Ft. Collins 889W	Larimer
Taylor T. Clarkson	Physicians Bldg.	Ft. Collins 400	Larimer

FORT LUPTON, COLORADO

Koschalk, Joseph	Fort Lupton	Ft. Lupton 6J	Weld
Monismith, A. T.	Fort Lupton	Ft. Lupton 6J	Weld
Pearson, E. R.	Fort Lupton	Ft. Lupton 148	Weld

FORT LYON, COLORADO

Fulwider, Robert M.	Fort Lyon	Las Animas 82	Otero

FORT MORGAN, COLORADO

Clark, I. J.	Box 577	Ft. Morgan 499	Morgan
Johnson, Harry A.	Morgan County Bank Bldg.	Ft. Morgan 37W	Morgan
Lockwood, F. W.	First National Bank Bldg.	Ft. Morgan 137	Morgan
Williams, A. F.	220 E. Beaver Ave.	Ft. Morgan 18	Morgan
Woodward, Paul E.	220 E. Beaver Ave.	Ft. Morgan 18	Morgan

FOWLER, COLORADO

Higbee O. F.	Fowler	Fowler 224	Otero
Van Der Schouw, G. E.	Fowler	Fowler 50W	Otero

FREDERICK, COLORADO

Hawthorn, H. M.	Frederick	Frederick 42	Morgan
McCabe F. H.	Frederick	Frederick 42	Boulder

FRUITA, COLORADO

Orr, James S.	Fruita	Fruita 4W	Mesa
White, H. W.	Fruita	Fruita 5W	Mesa

GILCREST, COLORADO

Pestal, Joseph	Gilcrest	Gilcrest	Weld

GILL, COLORADO

Warren, Charles B	Gill	Greeley 6J2	Weld

GILMAN, COLORADO

Nutting, B. E.	Gilman	Redcliff 20W	Garfield

GLENWOOD SPRINGS, COLORADO

Name	Address	Telephone	Society
Andrus, L. F.	Glenwood Springs	Glenwood Springs 168	Denver
Crook, W. W.	First National Bank Bldg.	Glenwood Springs 162	Garfield
Hopkins, G. A.	Citizens National Bank Bldg.	Glenwood Springs 63W	Garfield
Mathews, J. R.	First National Bank Bldg.	Glenwood Springs 25W	Garfield
Porter, R. B.	First National Bank Bldg.	Glenwood Springs 25W	Garfield

GOLDEN, COLORADO

Garvin, D. E.	815 12th St.	Golden 68	Clear Creek Valley
Howlett, R. G.	Golden	Golden 99	Clear Creek Valley
Kemble, E. W.	Golden	Golden 6	Clear Creek Valley
Robinovitch, Louise G.	Golden		Denver

GRANADA, COLORADO

Thompson, Lewis N.	Granada		Prowers

GRAND JUNCTION, COLORADO

Cary, G. C.	Canon Bldg.	Grand Junction 839	Mesa
Day, H. S.	Fair Bldg.	Grand Junction 403	Mesa
Feldman, G. G.	Fair Bldg.	Grand Junction 403	Mesa
Ford, J. E.	Reed Bldg.	Grand Junction 908	Mesa
Graves, H. C.	407 First National Bank Bldg.	Grand Junction 8	Mesa
Hanson, K.	Canon Bldg.	Grand Junction 101	Mesa
Hover, G. M.	Grand Junction	Grand Junction 1143W	Mesa
Lillienthal, Samuel	CCC Camp D-G 2-C Grand Junction	Grand Junction 1895	Denver
McDonough, F. J.	Grand Valley Bank Bldg.	Grand Junction 79	Mesa
Munro, E. H.	Canon Bldg.	Grand Junction 839	Mesa
Peterson, E. H.	Margery Bldg.	Grand Junction 29	Mesa
Reed, C. W.	Margery Bldg.	Grand Junction 904	Mesa
Sickenberger, J. U.	Grand Valley Bank Bldg.	Grand Junction 926	Mesa
Stirling, Margaret	Box 532		Mesa
Taylor, A. G.	Currie Bldg.	Grand Junction 333W	Mesa
Tupper, Harvey M.	26 Canon Blk.	Grand Junction 555	Mesa

GRAND VALLEY, COLORADO

Miller, Fred H.	Grand Valley	Grand Valley 33	Garfield

GREELEY, COLORADO

Adams, B. L.	223 Greeley Bldg.	Greeley 2322J	Weld
Allen, W. P.	822½ 9th St.	Greeley 19	Weld
Atkinson, T. E.	Coronado Bldg.	Greeley 65	Weld
Barber, Donn J.	320 Greeley Bldg.	Greeley 25	Weld
Bennell, O. E.	Greeley Union National Bank Bldg.	Greeley 163	Weld
Broman, O. F.	Greeley Bldg.	Greeley 68	Weld
Bryson, Margaret E.	State Teachers College	Greeley 2000	Weld
Dyde, C. B.	Park Place Bldg.	Greeley 61W	Weld
Fezer, Florence	811 12th St.	Greeley 1944	Weld
Fuqua, J. W.	800½ 9th St.	Greeley 1369W	Weld
Graham, R. F.	1129 7th St.	Greeley 1515	Weld
Harmer, W. W.	Greeley Bldg.	Greeley 80W	Weld
Haskell, E. E.	Greeley Clinic	Greeley 147	Weld
Knowles, E. W.	Greeley Bldg.	Greeley 69W	Weld
Lehan, J. W.	Park Place Bldg.	Greeley 28W	Weld
Lux, Leo L.	Greeley Bldg.	Greeley 107W	Weld
Madler, N. A.	Greeley Bldg.	Greeley 25	Weld
Marsh, J. W.	1002 9th St.	Greeley 147	Weld
Mead, Ella A.	Coronado Bldg.	Greeley 91	Weld
Nelson, G. E.	1002 9th St.	Greeley 147	Weld
Peppers, Tracy D.	Greeley Clinic	Greeley 147	Weld
Porter, R. T.	1002 9th St.	Greeley 147	Weld
Ringle, C. A.	Coronado Bldg.	Greeley 65	Weld
Schoen, W. A.	Greeley Bldg.	Greeley 935W	Weld
Thompson, W. E.	Greeley Bldg.	Greeley 23W	Weld
Von-Den-Steinen, Edward	State Teachers College	Greeley 2000	Weld
Weaver, J. A.	Park Place Bldg.	Greeley 70W	Weld
Weaver, J. A., Jr.	Park Place Bldg.	Greeley 585W	Weld
Webster, W. W.	Greeley Clinic	Greeley 147	Weld
Wilmoth, T. C.	Central Bldg.	Greeley 380W	Weld

GROVER, COLORADO

Levine, S. J.	Grover	Call Long Distance	Weld

GUNNISON, COLORADO

Cummings, B. F.	Gunnison	Gunnison 118	Chaffee
Mast, W. H.	Gunnison	Gunnison 147	Chaffee
McDonough, J. F.	Gunnison	Gunnison 147	Chaffee

HARTMAN, COLORADO

Fitzgerald, D. L.	Hartman	Hartman 7	Prowers

HAXTUN, COLORADO

Kinzie, J. W.	Haxtun	Haxtun 105-R3	Northeast
Lubchenco, Portio McK.	McKnight Hospital	Haxtun 117-R3	Northeast
McKnight, J. H.	McKnight Hospital	Haxtun 117-R3	Northeast
Mooney, W. E.	Haxtun	Haxtun 112-R3	Northeast

HAYBRO, COLORADO

Newland, D. E.	Haybro	Oak Creek 69	Northwestern

HAYDEN, COLORADO

Whittaker, D. L.	Hayden	Hayden 61	Northwestern

HOLLY, COLORADO

Name	Address	Telephone	Society
Casburn, F. E.	Holly	Holly 30W	Prowers

HOLYOKE, COLORADO

Hill, H. C.	Holyoke	Holyoke 6500	Northeast
Means, F. M.	Holyoke	Holyoke 4302	Northeast

HOMELAKE, COLORADO

Pollard, James W.	Homelake	Monte Vista 0101	San Luis Valley

HOTCHKISS, COLORADO

Myers, James T.	Hotchkiss		Delta

HUDSON, COLORADO

Crawford, E. A.	Hudson	Hudson 121W	Weld
Maker, L. E.	Hudson	Hudson 39J	Weld

HUGO, COLORADO

McConnell, John A.	Hugo	Hugo 29W	Kit Carson

IDAHO SPRINGS, COLORADO

Rouse, Benjamin H.	Idaho Springs	Idaho Springs 134	Clear Creek Valley

IDALIA, COLORADO

Garcia, James	Idalia		Washington Yuma

ILIFF, CLORADO

Houf, H. W.	Iliff	Iliff 7	Northeast

JAROSA, COLORADO

Hoxie, H. J.	Jarosa	Jarosa 60R3	San Luis Valley

JOES, COLORADO

Regehr, J. K.	Joes	Joes 5	Washington-Yuma

JOHNSTOWN, COLORADO

Dean, Charles G.	Johnstown	Johnstown 13	Weld
Jones, Glenn A.	Johnstown	Johnstown 57W	Weld

JULESBURG, COLORADO

Folsom, C. H.	Julesburg	Julesburg 17W	Northeast

KERSEY, COLORADO

Van Landegham, F. P. N.	Kersey	Greeley Red 57-J3	Weld

KIOWA, COLORADO

Lusk, William A.	Kiowa	Kiowa 38J	Arapahoe

KIRK, COLORADO

Blanchard, L. W.	Kirk		Washington-Yuma

KIT CARSON, COLORADO

Hadsell, C. A.	Kit Carson		Kit Carson

KREMMLING, COLORADO

Sudan, A. C.	Kremmling	Kremmling 3	Northwestern

LAFAYETTE, COLORADO

Braden, J. M.	Lafayette	Lafayette 24W	Boulder
Porter, V. W.	Lafayette	Lafayette 63	Boulder

LA JARA, COLORADO

Blissard, J. M.	La Jara	La Jara 56	San Luis Valley
Walsh, H. F.	La Jara	La Jara 55	San Luis Valley

LA JUNTA, COLORADO

Calonge, G. E.	McNeen Bldg.	La Junta 186	Otero
Cash, AEneas P.	Santa Fe Hospital	La Junta 210	Otero
Cooper, Thomas J.	Colorado Trust Bldg.	La Junta 84	Otero
Farnsworth, M. A.	La Junta	La Junta 115	Otero
Hansen, A. S.	401 Smithland Ave.	La Junta 210	Otero
Johnston, R. S.	401 Smithland Ave.	La Junta 210	Otero
Morse, C. E.	McNeen Bldg.	La Junta 167	Otero
Stickles, Albert	La Junta	La Junta 143	Otero
Weber, C. C.	La Junta	La Junta 210	Otero

LAMAR, COLORADO

Burnett, N. M.	Lamar	Lamar 2	Prowers
Knuckey, Clyde T.	200½ So. Main St.	Lamar 92W	Prowers
Likes, L. E.	Lamar	Lamar 305W	Prowers
Rummell, R. J.	200½ So. Main St.	Lamar 74W	Prowers
Williams, George S.	Lamar	Lamar 56W	Prowers

LA SALLE, COLORADO

Wilkinson, W. L.	La Salle	La Salle 18	Weld

LAS ANIMAS, COLORADO

Name	Address	Telephone	Society
Fickel, W. H.	Las Animas	Las Animas 52	Otero
Gaines, Joseph R.	Las Animas	Las Animas 348	Otero
Hagerman, S. V.	Las Animas	Las Animas 9	Otero
Hardy, J. O.	Las Animas	Las Animas 294	Otero

LA VETA, COLORADO

Lee, Earl R.	La Veta	La Veta 18	Huerfano

LEADVILLE, COLORADO

Condon, Charles E.	Leadville	Leadville 10	Lake
Fitzgerald, R. H.	Leadville	Leadville 36	Lake
McDonald, Franklin J.	Leadville	Leadville 121	Lake
Strong, J. C.	Leadville	Leadville 72W	Lake

LITTLETON, COLORADO

Crysler, W. C.	Coors Bldg.	Littleton 44	Arapahoe
Moore, G. C.	First National Bank Bldg.	Littleton 132W	Arapahoe
Otte, J. E.	169 N. Logan	Littleton 211	Arapahoe
Paul, Edward F.	158 N. Logan	Littleton 132W	Arapahoe

LONGMONT, COLORADO

Andrew John	Longmont Hospital	Longmont 32J	Boulder
Cooke, Myron W.	656 4th Ave.	Longmont 61	Boulder
Dietmier H. R.	Longmont Hospital	Longmont 25	Boulder
Hageman, George R.	Longmont Hospital	Longmont 867	Boulder
Jernigan, V. J.	615 4th Ave.	Longmont 247	Boulder
Matlack, J. A.	Longmont Hospital	Longmont 30	Boulder
Sidwell, C. E.	608 4th Ave.	Longmont 200J	Boulder
White, W. J.	662 4th Ave.	Longmont 50	Boulder
Woods, W. P.	662 4th Ave.	Longmont 51	Boulder

LOUISVILLE, COLORADO

Bartholomew, J. D.	Louisville	Louisville 81	Boulder
Cassidy, L. F.	Louisville	Louisville 51J	Boulder

LOVELAND, COLORADO

Gasser, John J.	428 Lincoln Ave.	Loveland 656	Larimer
Gasser, W. P.	428 Lincoln Ave.	Loveland 656	Larimer
Joslyn, S. A.	State Mercantile Bldg.	Loveland 84	Larimer
McFadden, J. G.	433 N. Lincoln Ave.	Loveland 16	Larimer
Stewart, M. J.	Larimer County Bank Bldg.	Loveland 171	Larimer
Wright, Ross E.	349 Jefferson	Loveland 152	Larimer

MANITOU, COLORADO

Beck, L. H.	Manitou	Hyland 10	El Paso
Bumgarner, Frank E.	Manitou	Hyland 80	El Paso
Winston, A. L.	Manitou	Hyland 2W	El Paso

MANZANOLA, COLORADO

Adams, V. K.	Manzanola	Manzanola 24W	Otero
Bartholomew, W. S.	Manzanola	Manzanola 1W	Otero

McPHEE, COLORADO

Smith, C. D.	McPhee	Marvel 401	San Juan
Speck, R. T.	McPhee	McPhee 45-J3	San Juan

MEEKER, COLORADO

Brewer, M. I.	Meeker	Meeker 61W	Garfield
Farthing, C. H.	Meeker	Meeker 4	Garfield

MESA VERDE, COLORADO

Condit, E. G.	Mesa Verde	Mancos 87 R13	San Juan

MILLIKEN, COLORADO

Fuson, C. C.	Milliken	Milliken 16W	Weld

MONTE VISTA, COLORADO

Shmugar, Meyer	Monte Vista	Monte Vista 361	San Luis Valley
Smith, C. A.	Monte Vista	Monte Vista 70	San Luis Valley
Taylor, R. D.	Monte Vista	Monte Vista 22W	San Luis Valley
Trueblood, Charles	Monte Vista	Monte Vista 90	San Luis Valley

MONTROSE, COLORADO

Brethouwer, C. G.	Box 247	Montrose 399	Montrose
Brethouwer, N. A.		Montrose 399	Montrose
Didrickson, F. G.	602 Main St.	Montrose 29	Montrose
Knott, Isaiah	Keller Bldg.	Montrose 99W	Montrose
Lockwood, Chas. E.	Keller Bldg.	Montrose 137W	Montrose
Spring, John A.	602 Main St.	Montrose 29	Montrose

MORLEY, COLORADO

Parker, Thadd	Morley	Trinidad 28W	Las Animas

MOUNT HARRIS, COLORADO

Sloan, W. W.	Mount Harris	Hayden 92-J2	Northwestern

NEDERLAND, COLORADO

Name	Address	Telephone	Society
Anderson, Carrie J.	Nederland	Nederland 28	Boulder

NEW RAYMER, COLORADO

Olson, D. G.	New Raymer	Call Long Distance	Weld

OAK CREEK, COLORADO

Courtney, R. F.	Oak Creek	Oak Creek 73	Northwestern
Morrow, E. L.	Oak Creek	Oak Creek 29	Northwestern

OLATHE, COLORADO

Bennett, E. E.	Olathe	Olathe 100	Montrose

OLNEY SPRINGS, COLORADO

Hipp, J. A.	Olney Springs	Ordway 85-R4	Crowley

ORDWAY, COLORADO

Desmond, Wm. M.	Ordway	Ordway 154	Crowley
Jeffery, James E.	Ordway	Ordway 3	Crowley
Stanley, George B.	Ordway	Ordway 22W	Crowley

OTIS, COLORADO

Yates, John B.	Otis	Otis 38	Washington-Yuma

OURAY, COLORADO

Spangler, E. L.	Ouray	Ouray 27	Montrose

OVID, COLORADO

Peterson, Arthur E.	Ovid	Ovid 39	Northeast

PAGOSA SPRINGS, COLORADO

Miskoweic, A.	Pagosa Springs	Call Long Distance	San Juan

PAONIA, COLORADO

Gould, A. H.	Paonia	Call Long Distance	Delta
Hazlett, H. W.	Paonia	Call Long Distance	Delta

PHIPPSBURG, COLORADO

Fleming, W. S.	Phippsburg	Oak Creek 70-R1	Northwestern

PIERCE, COLORADO

Mitchell, D. M.	Pierce	Pierce 4W	Weld

PLATTEVILLE, COLORADO

Kern, B. F.	Platteville	Platteville 8W	Weld
Scheidt, J. H.	Platteville	Platteville 8W	Weld

PORTLAND, COLORADO

Davis, T. A.	Portland	Florence 186-J1	Fremont

PUEBLO, COLORADO

Baker, W. T. H.	702 No. Main St.	Pueblo 6000	Pueblo
Black, H. A.	702 No. Main St.	Pueblo 6000	Pueblo
Bordner, Alta E.	State Hospital	Pueblo 3451	Pueblo
Buck, W. E.	New City Hall	Pueblo 205	Pueblo
Burkhard, Edwin D.	408 Colorado Bldg.	Pueblo 679	Pueblo
Caldwell, C. N.	320 Colorado Bldg.	Pueblo 6276	Pueblo
Clyman, Irving	134 Central Blk.	Pueblo 1500R	Pueblo
Corry, E. H.	Corwin Hospital	Pueblo 1210	Pueblo
Craighead, J. W.	Corwin Hospital	Pueblo 1210	Pueblo
Crozier, R. B.	513 Zroadway	Pueblo 2189	Pueblo
Davis, Roy E.	Colorado Fuel & Iron Co. Dispensary	Pueblo 5800	Pueblo
Dunlop, Josephine N.	Corwin Hospital	Pueblo 1210	Pueblo
Earnest, Clarence E.	414 Thatcher Bldg.	Pueblo 86	Pueblo
Epler, Crum	Woodcroft Hospital	Pueblo 346	Pueblo
Farley, John B.	544 Thatcher Bldg.	Pueblo 483	Pueblo
Finney, R. H.	Corwin Hospital	Pueblo 1210	Pueblo
Gale, Scott A.	717 Thatcher Bldg.	Pueblo 587	Pueblo
Geissinger, J. D.	702 No. Main St.	Pueblo 6000	Pueblo
Glather, A. W.	C. F. & I. Dispensary	Pueblo 5800	Pueblo
Heller, F. M.	642 Thatcher Bldg.	Pueblo 400	Pueblo
Hopkins, G. H.	702 No. Main St.	Pueblo 6000	Pueblo
Hutchinson, Wm.	C. F. & I. Dispensary	Pueblo 5800	Pueblo
James, W. A.	C. F. & I. Dispensary	Pueblo 5800	Pueblo
Knowles, Chas. E.	134 Central Block	Pueblo 1500R	Pueblo
Konwaler, B. E.	St. Mary Hospital	Pueblo 4760	Pueblo
Lassen, Fritz	702 No. Main St.	Pueblo 6000	Pueblo
Low, H. T.	629 Thatcher Bldg.	Pueblo 402	Pueblo
Lowe, Wilbur	232 Colorado Bldg.	Pueblo 1936	Pueblo
Luqueer, F. A.	702 No. Main St.	Pueblo 6000	Pueblo
Maynard, C. W.	702 No. Main. St.	Pueblo 6000	Pueblo
McBrayer, Benjamin E.	C. F. & I. Dispensary	Pueblo 3451	Pueblo
McDonnell, J. J.	103 Broadway	Pueblo 232	Pueblo
Merriman, Amherst	Colorado Bldg.	Pueblo 1460	Pueblo
Myers, George M.	702 No. Main St.	Pueblo 6000	Pueblo

PUEBLO (Continued)

Name	Address	Telephone	Society
Nelson, Samuel	216 Colorado Bldg.	Pueblo 1871	Pueblo
Nicolctti, Frank	302 Colorado Bldg.	Pueblo 1319	Pueblo
Norman, J. S.	Corwin Hospital	Pueblo 282	Pueblo
Pattee, J. J.	Thatcher Bldg.	Pueblo 241	Pueblo
Patterson, W. O.	Pope Bldg.	Pueblo 757	Pueblo
Peirce, F. J.	650 Thatcher Bldg.	Pueblo 432	Pueblo
Rice, George E.	702 No. Main St.	Pueblo 6000	Pueblo
Rich, W. F.	Thatcher Bldg.	Pueblo 1154	Pueblo
Robe, R. C.	Thatcher Bldg.	Pueblo 333	Pueblo
Rosenbloom, Julius Lee	Colorado State Hospital	Pueblo 3451	Pueblo
Rusk, H. S.	Colorado Bldg.	Pueblo 174	Pueblo
Schwer, J. L.	522 Thatcher Bldg.	Pueblo 282	Pueblo
Senger, William	Corwin Hospital	Pueblo 1210	Pueblo
Shaw, Dwight B.	702 N. Main St.	Pueblo 6000	Pueblo
Singer, Frederic	114 W. 9th St.	Pueblo 80	Pueblo
Snedec, J. F.	650 Thatcher Bldg.	Pueblo 400	Pueblo
Steinhardt, E. H.	Basement City Hayy	Pueblo 3865	Pueblo
Stewart, Ellen	317 Michigan Ave.	Pueblo 5800	Pueblo
Stoddard, T. A.	Thatcher Bldg.	Pueblo 483	Pueblo
Streamer, C. W.	401 Colorado Bldg.	Pueblo 140	Pueblo
Taylor, R. R.	Thatcher Bldg.	Pueblo 587	Pueblo
Thompson, J. W.	Thatcher Bldg.	Pueblo 480	Pueblo
Tipple, A. M.	402 Colorado Bldg.	Pueblo 140	Pueblo
Unfug, G. A.	316 Colorado Bldg.	Pueblo 383	Pueblo
Vogt, H. J.	103 Broadway	Pueblo 232	Pueblo
Ward, L. L.	316 Colorado Bldg.	Pueblo 383	Pueblo
White, J. W.	702 No. Main St.	Pueblo 6000	Pueblo
Wolf, John G.	431 Colorado Bldg.	Pueblo 153	Pueblo
Woodbridge, J. H.	650 Thatcher Bldg.	Pueblo 400	Pueblo
Zimmerman, F. H.	Colorado State Hospital	Pueblo 5741	Pueblo

RIDGE, COLORADO

La Moure, Howard A.	Ridge	Arvada 133	Clear Creek Valley

RIFLE, COLORADO

Clagett, O. F.	Rifle	Rifle 63W	Garfield

ROCKY FORD, COLORADO

Baker, G. M.	409 S. Main	Rocky Ford 318	Otero
Blotz, B. B.	First National Bank Bldg.	Rocky Ford 100	Otero
Blotz, B. F.	First National Bank Bldg.	Rocky Ford 100	Otero
Fenton, W. C.	918 Elm St.	Rocky Ford 363J	Otero
Lawson, J. A.	209½ No. Main St.	Rocky Ford 80J	Otero

SAGUACHE, COLORADO

Gotthelf, I. L.	Saguache	Saguache 86F1	San Luis Valley
Shippey, O. P.	Saguache	Saguache 23	San Luis Valley

SALIDA, COLORADO

Bender, A. J.	Disman-Alger Bldg.	Salida 27	Chaffee
Cochems, F. N.	Third and G Sts.	Salida 63	Chaffee
Curfman, George H.	First and F Sts.	Salida 156	Chaffee
Fuller, C. R.	First and F Sts.	Salida 80	Chaffee
Larimer, G. W.	Rio Grande Hospital	Salida 145W	Chaffee
Parker, O. T.	Sandusky Bldg.	Salida 50	Chaffee
Smith, Howard D.	Salida	Salida 188	Chaffee
Thompson, L. E.	Woolworth Bldg.	Salida 133	Chaffee

SEGUNDO, COLORADO

Drisdale, W. E.	Segundo	Trinidad 0312-J2	Las Animas

SEIBERT, COLORADO

McBride, William L.	Seibert	Seibert 14	Kit Carson

SILVERTON, COLORADO

Maxwell, D. M.	Silverton	Silverton 55	San Juan

SIMLA, COLORADO

Groves, Dale O.	Simla	Simla 5-H2	El Paso

SPIVAK, COLORADO

Ehrenburg, G. E.	Spivak	Keystone 3161	Clear Creek Valley
Schwatt, Herman	Spivak	Keystone 3161	Clear Creek Valley

SPRINGFIELD, COLORADO

Duffy, Gerald A.	Springfield	Springfield 60	Prowers
Hamilton, D. D.	Springfield	Springfield 24	Prowers
Patterson, R. F.	Golden Rule Bldg.	Springfield 45	Prowers

STEAMBOAT SPRINGS, COLORADO

Turner, Duane	Steamboat Springs	Steamboat Springs 103	Northwestern
Willett, F. E.	Steamboat Springs	Steamboat Springs 44	Northwestern

STERLING, COLORADO

Name	Address	Telephone	Society
Baker, A. B.	Sterling	Sterling 1044W	Northeast
Beebe, K. H.	Sterling	Sterling 324W	Northeast
Daniel, J. H.	Henderson Bldg.	Sterling 242W	Northeast
Elliff, E. A.	108 No. 3rd St.	Sterling 993W	Northeast
Hummel, E. P.	Commercial Bldg.	Sterling 501W	Northeast
Latta, C. J.	123 So. 2nd St.	Sterling 468	Northeast
Morehouse, J. A.	Sterling	Sterling 766W	Northeast
Naugle, J. E.	Henderson Bldg.	Sterling 787	Northeast
Palmer, F. E.	Henderson Bldg.	Sterling 327W	Northeast
Schmitt, O. J.	123 So. 2nd St.	Sterling 323W	Northeast
Tripp, C. I.	123 So. 2nd St.	Sterling 178W	Northeast

STRASBURG, COLORADO

Lewark, Sara H.	Strasburg	Strasburg 1	Arapahoe

STRATTON, COLORADO

Cavey, J. E.	Stratton	Stratton 57	Kit Carson

SUGAR CITY, COLORADO

Waxham, Charles	Sugar City	Sugar City 37	Crowley

TELLURIDE, COLORADO

Parker, J. J.	Telluride	Telluride 20	Delta

TIOGA, COLORADO

Fowler, J. R.	Tioga	Walsenburg 08-J1	Huerfano

TRINIDAD, COLORADO

Abrums, H. E.	105 E. Main St.	Trinidad 82	Las Animas
Adams, O. F.	201½ E. Main St.	Trinidad 1260	Las Animas
Albi, M. C.	Turner Bldg.	Trinidad 1	Las Animas
Beshoar, Ben B.	234½ No. Commercial St.	Trinidad 3	Las Animas
Beuchat, Lee J.	14 McCormick Bldg.	Trinidad 21	Las Animas
Carmichael, P. W.	McCormick Bldg.	Trinidad 346	Las Animas
Cawley, B. M.	312 E. Main St.	Trinidad 560	Las Animas
Costigan, D. D.	Opera House Bldg.	Trinidad 15	Las Animas
Espey, J. G.	402 W. Main St.	Trinidad 2	Las Animas
Espey, James G., Jr.	402 W. Main St.	Trinidad 242	Las Animas
Freudenthal, Alfred	Samuel Bldg.	Trinidad 356	Las Animas
McClure, Charles O.	127 No. Commercial St.	Trinidad 446W	Las Animas
Newburn, Walter L.	Opera House Bldg.	Trinidad 848	Las Animas
Richie, Lee T.	McCormick Bldg.	Trinidad 163	Las Animas

TWO BUTTES, COLORADO

Verity, William P.	Two Butter	Two Buttes 8J	Prowers

VICTOR, COLORADO

Denman, A. C.	Victor	Cripple Creek 99	Denver

VONA, COLORADO

Hewitt, V. M.	Vona	Vona 11	Kit Carson

WALSENBURG, COLORADO

Andrews, George D.	513 Main St.	Walsenburg 134W	Huerfano
Chapman, W. S.	118 E. 5th St.	Walsenburg 324	Huerfano
Lamme, J. M.	Lamme Bros. Hospital	Walsenburg 178	Huerfano
Lamme, S. J.	Lamme Bros. Hospital	Walsenburg 178	Huerfano
Mathews, P. G.	Kearns Bldg.	Walsenburg 92W	Huerfano
Noonan, George M.	118 E. 5th St.	Walsenburg 324	Huerfano
Stanley, A. F.	Walsenburg	Walsenburg 633	Huerfano

WALSH, COLORADO

Hayes, H. M.	P. O. Box 136	Walsh 24	Prowers

WELLINGTON, COLORADO

Raymond, E. I.	Wellington	Wellington 4W	Larimer

WEST PORTAL, COLORADO

Evans, W. W.	West Portal	West Portal 2	Garfield

WHEATRIDGE, COLORADO

Masten, A. R.	Lutheran Sanitarium	Arvada 633	Clear Creek Valley

WIGGINS, COLORADO

Handles, Jacob	Wiggins	Wiggins 24	Morgan

WILEY, COLORADO

Housel, C. L.	Wiley	Wiley 54	Prowers

WINDSOR, COLORADO

Bartz, L. E.	Windsor	Windsor 5	Weld
Sabin, C. W.	Windsor	Windsor 113	Weld

WOODMEN, COLORADO

Forney, F. A.	Woodmen	Main 1018	El Paso
Schultz, H. H.	Woodmen	Main 1018	El Paso

WRAY, COLORADO

Name	Address	Telephone	Society
Bauer, W. W.	Wray	Wray 233	Washington-Yuma
Buchanan, Lawrence D.	Wray	Wray 138	Washington-Yuma
Kitzmiller, H. V.	Wray	Wray 25	Washington-Yuma
Larson, J. H.	Wray	Wray 138	Washington-Yuma

YAMPA, COLORADO

Male, J. T.	Yampa	Yampa 17	Northwestern

YUMA, COLORADO

Bennett, C. J.	Yuma	Yuma 73	Washington-Yuma
Bilsborrow, G. B.	Yuma	Yuma	Washington-Yuma
Flaten, A. P.	Yuma	Yuma 278	Washington-Yuma
Ham, J. P.	Yuma	Yuma	Washington-Yuma

OUT OF STATE

(Out of state temporarily, retired from practice, in full-time government service, in foreign service, or recently moved and awaiting transfer.)

Name	Address	Postoffice	Society
Bell, C. C.	SCS 13, Apache Pass	Bowie, Ariz.	Denver
Bondurant, A. J.		Jefferson Barracks, Mo.	Otero
Bryant, William A.	4161 Booth Avenue	Kansas City, Kansas	Prowers
Cavanaugh, John L.		Carlsbad, New Mexico	Garfield
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Cook, R. C.	Veterans' Administration Hospital	Excelsior Springs, Mo.	Denver
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Friedman, H. L.		New York	Denver
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Gelien, Johanna	24 Fifth Ave.	New York City	Denver
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Miller, A. E.	Box 486	McAllen, Texas	Delta
Perry, Robert B.		Lincoln, Ill.	Denver
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Price, Ligon	Fairmount Hospital No. 6	Fairmount, W. Va.	Denver
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Salisbury, E. I.	United Fruit Co. Hospital	Limon, Costa Rica	Denver
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Sorenson, George	367 Cumberland St.	Glendale, Calif.	Otero
Staeck, Felix C.	900 Marshall Street	McMechen, W. Va.	Denver
Tidd, C. H.	530 N. Hoover	Whittier, Calif.	Delta
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Waltz, Harold D.		Ohio	Denver
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Woern, W H		Roland, Ark.	Larimer

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Hopkins, Thomas M.	520 Metropolitan Building	Denver	Denver
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Kent, Wallace C.	1069 Cook St.	Denver	Denver
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McLauthlin, H. W.	532 Republic Bldg.	Denver	Denver
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Ogilbee, H. N.		Manitou	El Paso
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Shollenberger, Charles F.	2836 Federal Blvd.	Denver	Denver
Stiles, G. W.	444 P. O. Bldg.	Denver	Denver
Taylor, C. F.	802 W. Thirteenth St.	Pueblo	Pueblo
Wetherill, Horace G.	1085 W. Franklin St.	Monterey, Calif.	Denver
White, H. T.	4201 W. Forty-ninth Ave.	Denver	Denver
Wiest, Newton	1754 Albion St.	Denver	Denver
Wilcox, Henry W.	904 Republic Bldg.	Denver	Denver
Wilcox, Sara C.	904 Republic Bldg.	Denver	Denver
Williams, Aubrey H.	1024 Republic Bldg.	Denver	Denver
Work, Hubert	Tallwood-University Road	Englewood	Pueblo-Denver

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Name	Address	Telephone	City
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Colorado State Medical Society	537 Republic Bldg.	Keystone 0870	Denver
Denver Medical Library	Metropolitan Bldg. Annex	Main 3871	Denver
State Board of Health	State Office Bldg.	Keystone 1171	Denver
State Board of Medical Examiners	State Office Bldg.	Keystone 1171	Denver
State Industrial Commission (Workmen's Compensation Fund)	State Office Bldg.	Keystone 1171	Denver
State Hospital for the Insane	Pueblo	Pueblo 3451	Pueblo
State Home for Mental Defectives	Ridge	Arvada 133	Ridge
State Home for Mental Defectives	Grand Junction	Grand Junction 47	Grand Junction
Univ. of Colo. School of Medicine and Hospitals (Colorado General and Colo. Psychopathic Hospitals)	4200 E. Ninth Ave.	York 8500	Denver
Federal Emergency Relief Administration	C. A. Johnson Bldg.	Keystone 1301	Denver
Fitzsimons General Hospital	Aurora	Aurora 260	Aurora
Veteran's Facility Hospital	Fort Lyon	Las Animas 82	Ft. Lyon
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Boulder County—Second Thursday of each month; secretary, Warren M. Gilbert, Boulder.

Chaffee County—First Tuesday of each month; secretary, C. Rex Fuller, Salida.

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Delta County—Last Friday of each month; secretary, Lee Bast, Delta.

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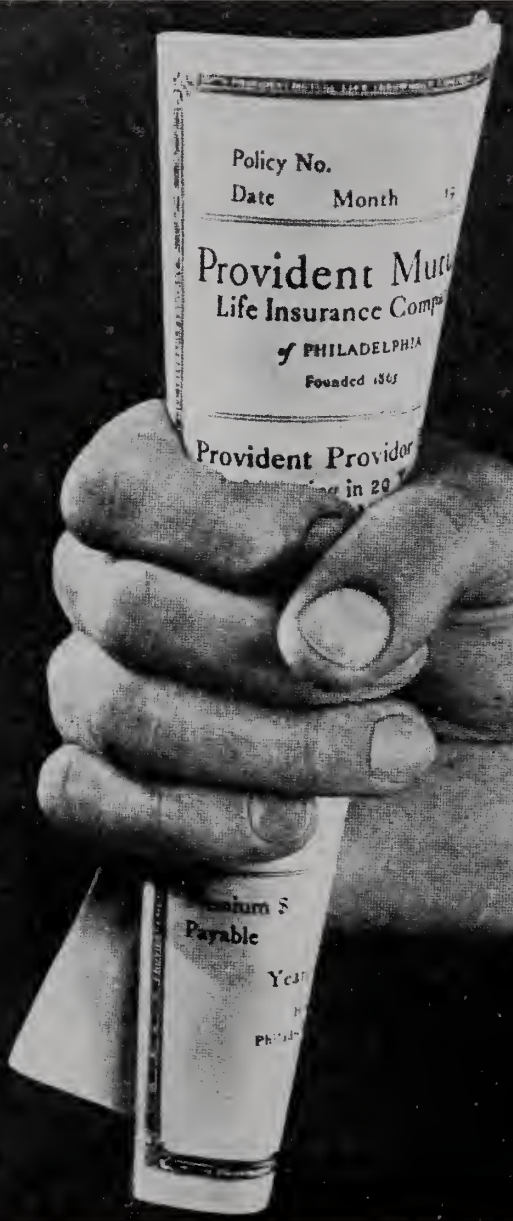
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